



THE LINK

Membership News, Programs and Activities

June/July 2000
Volume 5, No. 3

PEO investigates Walkerton tragedy, offers assistance to government

by Alison Piper

Residents of Walkerton continue to struggle with a bacteria outbreak in their drinking water, which has sickened as many as 2000 people and is suspected of killing several. Expected to take up to seven weeks, building-to-building disinfection of municipal water systems is underway to ensure the safety of the town's drinking water.

PEO is responding to the tragedy by investigating whether the practice of professional engineering was at issue. It has also offered to work with the Ontario government and its agencies and the Town of Walkerton to restore the safety and reliability of the province's drinking water.

On May 31, PEO President Peter DeVita, P.Eng., wrote to Ontario Premier Mike Harris offering through him to the people of Walkerton PEO's "deepest regrets and sympathies," explaining PEO's mandate, and offering its assistance to help ensure that future incidences of drinking water contamination are prevented. The letter states: "The safety and reliability of drinking water has historically been a source of pride to our profession and we are shocked and saddened that this tragedy could happen in modern day Ontario."

The letter also assures the government that if the practice of professional engineering is found to have been a factor in the tragedy, PEO "will be vigilant in carrying out our statutory mandate and our responsibility to the public." It was copied to Attorney General Jim Flaherty; Environment Minister Dan Newman; Dalton McGuinty, opposition leader; Howard Hampton, leader of the NDP; and Walkerton Mayor David Thomson.

After receiving the letter, staff from the environment ministry consulted PEO on potential new regulations under the Ontario Water Resources Act, aimed at

improving drinking water safety.

The association's letter to the premier can be viewed on PEO's website (www.peo.on.ca). Further information on PEO's work with the environment ministry will be posted on the website and published in the July/August issue of *Engineering Dimensions*.

The environment ministry is currently conducting an investigation into the events that led to the contamination of Walkerton's municipal water system.

Measures taken by the government to help prevent future drinking water contamination include accreditation rules for private labs that test drinking water and

stricter requirements for reporting possible drinking water contamination to the government. The premier also recently announced that a full public inquiry into the matter will be conducted. Ontario Court of Appeal Judge Dennis O'Connor has been appointed to head the inquiry, expected to start in the fall.

Strategic planning gets underway Council looks at a future vision for PEO

by Alison Piper

As a first step toward developing a strategic plan to guide PEO's future business planning and policy making, PEO Council held a strategic planning session June 2 during its three-day workshop. As part of the exercise, Councillors were asked to consider the long-term impact on PEO of divesting its non-regulatory functions to the Ontario Society of Professional Engineers (OSPE)

To set the stage, President Peter DeVita, P.Eng., said the most critical strategic factor for PEO is its ability to respond to the expansion of science and technology, so that the engineering licence is relevant to today's marketplace. "The capture rate into the profession for electrical engineering graduates is down to 30 per cent," he said. "The 60 per cent capture rate for other graduates is declining. About 80 per cent of grads don't need the licence PEO gives to do their work." He also noted that the launch of

OSPE has provided an opportunity for PEO to refocus its goals.

Kathy Woods, P.Eng., vice president, MICA Management Resources, who facilitated the session, asked Councillors to brainstorm and then prioritize a list of PEO's strengths and weaknesses. Council identified PEO's top three strengths as being its structure as a self-governing body, the credibility it has among stakeholders and its financial strength. The three most urgent weaknesses to be addressed were the lack of a clear definition of engineering capable of encompassing emerging disciplines, the general lack of interest in association affairs among members and members' perception that PEO lacks relevance.

Councillors then did some initial thinking on a five-year vision for PEO, setting possible goals for PEO under the categories of relevance, image, external relations, internal operations, globalization, communication and core functions.

By 2005, Councillors suggested, they would like to see, among other goals:

- ◆ the value of PEO and licensure made clear to a variety of stakeholders;
- ◆ increased demand for licensure by a variety of stakeholders in an increased range of disciplines/practice areas;
- ◆ the market value of engineers rise;
- ◆ an increased level of public safety;
- ◆ the profession become high profile and highly respected by a range of stakeholders;
- ◆ PEO become a streamlined, efficient, responsive organization at the leading edge of technology;
- ◆ the definition of engineering clearly established, encompassing a broad range of disciplines; and
- ◆ an enhanced, modified chapter system in place.

(continued on p. 3.)

WEAC education program awarded \$50,000 from Ontario



PEO, the Natural Sciences and Engineering Research Council (NSERC)/Ontario Chair of Women in Engineering and the Ontario Women's Directorate have partnered in a new program to improve the learning climate in Ontario's 13 engineering faculties. On April 10, 2000, Helen Johns, Ontario's minister responsible for seniors and women, presented a cheque to PEO for \$50,000 to fund the program. Another \$50,000 from the minister will be awarded over the next two years.

Slated for a two-year duration, the partnership aims to support the development of strategies and pilot projects to improve recruitment, advising and teaching of female engineering students. The ultimate goal is to increase the number of full-time, undergraduate female students entering and staying in engineering and applied science.

In the photo are, from left to right: PEO Women in Engineering Advisory (WEAC) committee member Priya Vijayakumar; Sarah Shortreed, P.Eng., WEAC chair; Peter DeVita, P.Eng., PEO president; and Helen Johns.

THE LINK

IN THIS ISSUE

- 2
WEAC News
Essex engineers bridge history
- 3
In Council
10 rules for pricing services
- 4-5
Introducing 2000-2001 Council
- 6
National engineering roundtable
Stopping the brain drain
- 7
Water quality & sustainable
development forums
- 8
In Memoriam
Chapter Calendar

Canada Publications Mail product sales agreement no. 1404016. Canada Post: send address changes to 25 Sheppard Avenue West, Suite 1000, Toronto, ON M2N 6S9

WEAC NEWS

by Daniela Iliescu, P.Eng., WEAC member

WEAC AGM showcases innovation in space, e-commerce

by Daniela Iliescu, P.Eng. WEAC member

The Women in Engineering Advisory Committee (WEAC) hosted its annual meeting on April 29 at Rogers AT&T Wireless Campus in Toronto. This year's theme was "Innovation in Space and E-commerce." With an attendance of more than 80 participants, the event was a real success.

which is currently available on PEO's website.

PEO also sponsors an annual \$20,000 grant fund for groups or projects that encourage women to enter engineering. In partnership with the Ontario Women's Directorate and the Natural Sciences and Engineering Research Council Chair for Ontario, PEO will research and develop plans to improve the retention rates and quality of edu-

that involved measuring the cardiac output of astronauts during and after the space shuttle flight in October 1993. She explained why astronauts on return from micro-gravity may feel faint when they stand and why exercise tolerance is reduced on return to Earth, even if astronauts exercise regularly in space.

Shykoff is currently studying the effects of high blood pressure medication on blood vessel elasticity. In future, her research group will be examining the effects of water immersion and cold on blood pressure waveforms in divers.

Final speaker Samantha Surety, senior information developer at IBM, spoke about the opportunities and pitfalls of e-business, noting that it's expected to reach one-trillion dollars in annual transactions by the year 2005. Her presentation covered a wide range of aspects, from Internet use, to shopping, security and being online. She said the benefits of e-business include "boosting your profile, being more customer driven and selling products more economically," since you don't need to reprint a catalogue to modify information, while the pitfalls include lack of legal standards and customer acceptance, and information security issues.

Surety is currently involved in project management, information architecture and delivery, and process methodologies for several e-business products scheduled to be released this year.

WEAC would like to thank participants, speakers, and host and sponsor Rogers AT&T Wireless, for contributing to the success of the annual meeting.

National conference to focus on women's success

Join colleagues in St. John's, Newfoundland, from July 6-8, 2000, for "New Frontiers, New Traditions"—a national conference on women's success in science, technology, engineering and mathematics (STEM). Focused on reaching, recruiting and retaining women in these fields, the conference is being held in this millennium year to acknowledge past achievements and look forward to future accomplishments.

The program will include: the latest in research on women in STEM, career support and networking strategies, leadership skills development, best practices for enhancing diversity, and examples of the excitement and challenge of STEM careers.

Conference hosts are WISE (Women in Science and Engineering) Newfoundland and Labrador and the NSERC/Petro-Canada Chair for Women in Science and Engineering (Atlantic Region).

More information and registration forms are available at www.mun.ca/cwse.



Once operational, the International Space Station will provide Canadian scientists, engineers and astronauts with a platform for experiments in biotechnology, engineering, Earth observation and telecommunications, says Rachel Zimmerman of the Canadian Space Agency's Space Vision System Group. She discussed Canada's role in the Space Station project at WEAC's April AGM.

The meeting started with welcome speeches by Jim Smith, vice president, engineering, Rogers AT&T Wireless; Gordon Sterling, P.Eng., PEO president-elect; and Sarah Shortreed, P.Eng., WEAC chair, followed by a short overview of WEAC. Formed by PEO 12 years ago, WEAC has the mandate of addressing issues and concerns of women in engineering and developing goals and programs aligned with PEO strategic plans. WEAC advises PEO on activities to encourage women to join the profession, identifies emerging trends and issues related to women in engineering, and assesses the impact of these trends and issues on PEO strategic plans.

Today, WEAC aims to effect change in the profession, workplace and education system. A national survey of workplace conditions for female and male engineers conducted by PEO in 1994 showed that attitudinal obstacles still exist for women in engineering. In 1996, PEO Council passed a motion to include harassment explicitly in the definition of professional misconduct in Regulation 941 under the Professional Engineers Act. This step was followed by development of a human rights guideline by a WEAC subcommittee,

ational experiences in Ontario universities.

The first speaker was Rachel Zimmerman from Space Vision System Group, Canadian Space Agency, who discussed Canada's role in the International Space Station Project, noting that the station is a "symbol of cooperation among 16 countries, the world's industrialized nations, including Canada." She said that Canadian astronauts are playing an important role in International Space Station assembly missions, as are Canadian robots. Canada's Mobile Servicing System, for example, will allow the astronaut crew to perform complex operations from inside the Space Station, including assembly and repair work. Once operational, she said, the Space Station will provide Canadian scientists, engineers and astronauts with a platform for experiments in biotechnology, engineering, Earth observation and telecommunications.

Barbara Shykoff from Millard Fillmore Hospital, Department of Medicine, Division of Clinical Pharmacology, talked about her biomedical-bioengineering research on blood pressure and blood vessel properties and cardiovascular deconditioning of space flight.

Shykoff ran an experiment

Essex engineers bridge history

by Susanne Frame

Essex County's Engineering Week last March brought an opportunity for local engineers to showcase their skills, while building a lasting contribution to the community. Local engineers, university students and college students banded together to design and build a new bridge for the southwestern Ontario town of LaSalle.

"It's a great way to inform the public about engineering, and the best kind of promotion for the profession," says Norbert Becker, P.Eng., a Windsor consulting engineer and former PEO Councillor, who spearheaded the project.

Sponsored by PEO's Essex County Chapter, the pedestrian bridge over Turkey Creek was constructed in response to a number of fatal car accidents involving high school students. The lack of sidewalks and street lights in this rapidly growing suburban community were to blame. The bridge will provide a safe link to LaSalle's walkways and bike paths, and enhance access to a recreational park for area children.

Not content to merely provide a utilitarian solution to a local problem, the engineers also came up with a creative tribute to the community's history. The 30-metre span, cable-stayed structure was modeled after a tall ship in tribute to Captain LaSalle, who explored the area and encouraged its settlement.

A community-wide spectacle was the result. "We even had bridge groupies come out," laughs Becker.

To offset the estimated \$130,000 needed to build the bridge, local businesses donated materials and equipment, while the town of LaSalle supported the work with a \$20,000 cash contribution and the assistance of the public works department. All labour provided for the project was volunteer.

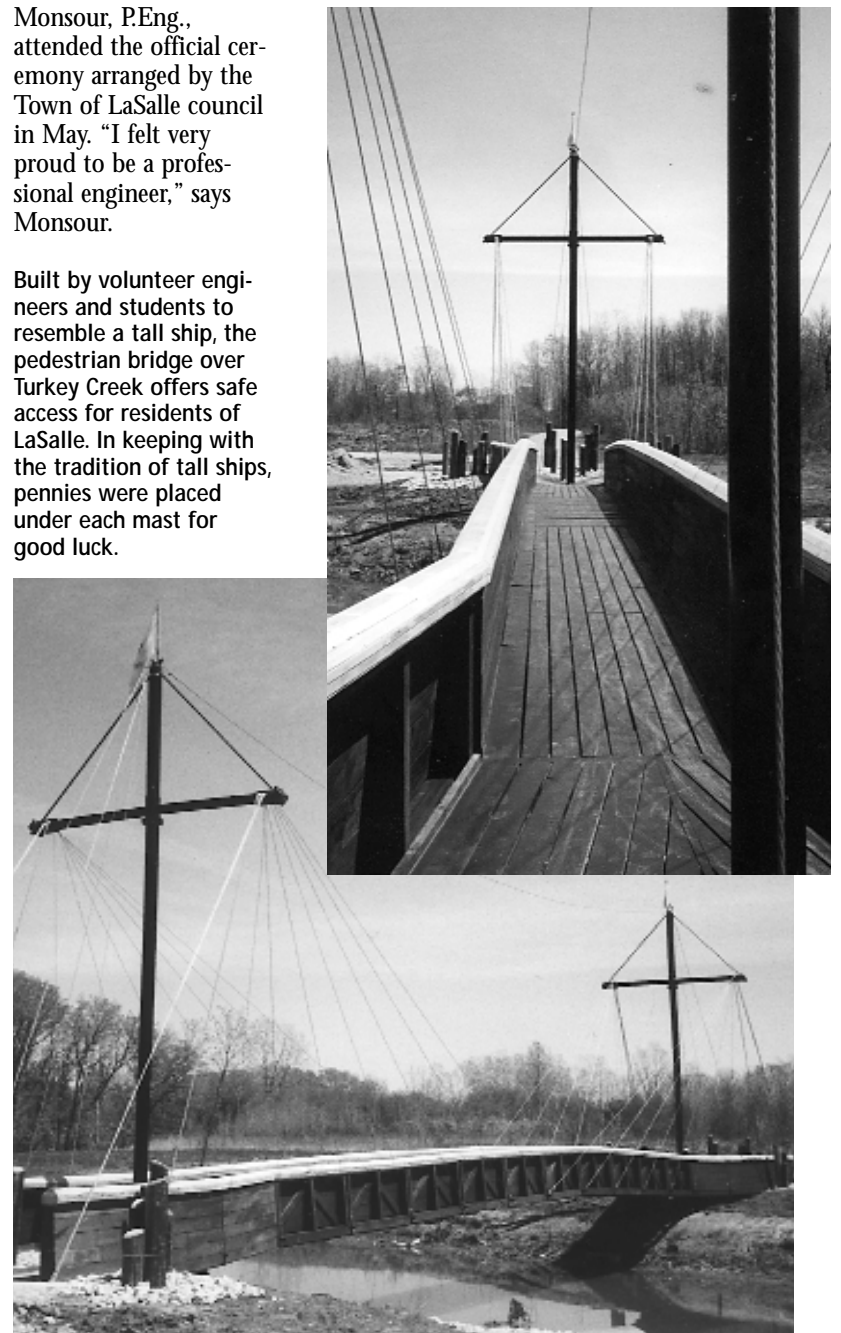
The bare bones approach to building brought some technical challenges. "We did the work without a crane because we didn't want to cause any damage to the parkland, and we wanted to challenge the students," says Becker.

Both halves of the bridge were built parallel to the shore. The tail sections were counterbalanced with masonry blocks, so the two halves could be manually swung over Turkey Creek. The cable-stays supporting the bridge are galvanized wires and fittings commonly used for utility poles, chosen purposefully to teach the students the benefits of using materials that are economical, easy to maintain and thoroughly tested.

Over 30 engineering, college and high school students helped in the design and construction of the bridge, under the mentoring of local engineers, technologists and skilled tradespeople.

Sean McCann, P.Eng., PEO Essex County chapter chair, and PEO Councillor Nick Monsour, P.Eng., attended the official ceremony arranged by the Town of LaSalle council in May. "I felt very proud to be a professional engineer," says Monsour.

Built by volunteer engineers and students to resemble a tall ship, the pedestrian bridge over Turkey Creek offers safe access for residents of LaSalle. In keeping with the tradition of tall ships, pennies were placed under each mast for good luck.



INCOUNCIL

Council confirms commitment for interim OSPE funding

JUNE 3, 2000 MEETING

by Alison Piper

At its June 3 meeting held at the Nottawasaga Inn as part of its annual workshop, Council confirmed PEO's commitment to transfer \$30 per full-fee-paying PEO member to OSPE to help the new organization become established. Changes to the Professional Engineers Act to enable PEO to provide transitional funding to OSPE are expected to become law by July (see Registrar's Report).

Specifically, Council passed a motion authorizing:

- ◆ a \$20 increase in PEO membership fees for each full-fee-paying member, to be implemented with the billing cycle immediately following passage of provisions in the Act that enable funding transfers to OSPE;
- ◆ a further fee increase of \$10, to be implemented one year later, for a total increase of \$30;
- ◆ the transfer to OSPE of \$30 per year for three years, for each full-fee-paying member, to be implemented at the same time as the \$20 fee increase. During the first year, OSPE transfer payments are expected to create a shortfall in PEO's revenue stream of approximately \$540,000. The money will be recouped from the increased membership fee when PEO's per capita transfer payments to OSPE cease in three years.

The motion was brought by Councillors David Sims and Tony Cecutti, P.Eng. Sims noted that passage of a motion recognizing the anticipated shortfall in revenue and plans for recovering it is important to PEO's financial auditors. He said the terms of the motion are consistent with the results of the February membership referendum on advocacy and motions previously passed by Council related to OSPE funding and the two-stage fee increase.

Chapter system review continues

Council moved the chapter review process forward, by passing a motion to refer the Chapter Structure and Revitalization Team's (START) discussion paper, which had been endorsed by chapter chairs through email, to the Regional Councillors Committee (RCC) for review and development of recommendations to Council. The motion requires that the RCC develop its recommendations for chapter system renewal in consultation with PEO's chapter leaders, registrar, chapter system manager and the PEO team currently negotiating with OSPE's interim board on the transfer of programs and services. The RCC is to make its recommendations to Council by December. Council also authorized up to \$24,500 to fund the process.

The motion proposing the next

steps in the chapter system review and attached funding was moved by Tony Cecutti, who chaired the START committee, and Councillor Ken McMartin, P.Eng., chair, Regional Councillors Committee. Cecutti explained that including the registrar among those to be consulted will be necessary to facilitate any changes to the Professional Engineers Act and/or Regulation 941 that may be required to enable implementation of the recommendations.

In general discussion, Councillor David Sims recommended integrating the chapter system review process with Council's long-term strategic planning and business plan development to ensure consistency.

Volunteer slate for 2000-2001

Council approved recommendations from the Advisory Committee on Committees (ACC) for committee membership for the 2000-2001 term. In general discussion, Councillor Dick Braddock, P.Eng., who chairs the ACC, noted that PEO committees will need to determine whether the coming transfer of member services to OSPE will affect their mandates and activities.

A vote of thanks

Council formally thanked all PEO volunteers and staff who have helped make OSPE a reality. Recognized were members of, and

advisors to, the 1997 Advocacy/Member Services Task Group, chaired by former Councillor Saleh Tadros, P.Eng.; the 1998 Advocacy Task Group, co-chaired by former Councillor Barry Bradford, P.Eng., and Saleh Tadros, P.Eng.; and the Joint Advocacy Implementation

Committee (JAIC), co-chaired by Councillor Bob Goodings, P.Eng., and Stewart Crampton, P.Eng., a member of the Canadian Society for Professional Engineers' board. It also passed a motion to stand down the JAIC, since its work is finished. For a full list of all participants, see PEO's website.

Registrar's report

In his report at the June 3 meeting, CEO and registrar Roger Barker, P.Eng., updated Council on recent PEO activities. Here are some of the highlights:

- ◆ Passage of amendments to the Professional Engineers Act to allow transitional funding of OSPE is being expedited through the Spring Red Tape Bill. The proposed legislation is expected to receive royal assent by early July.
- ◆ Changes to the Act to enable implementation of certain recommendations of the Task Force on Admissions, Complaints, Discipline and Enforcement and electoral reform are to be included in the Fall Red Tape Bill. PEO staff met recently with the Coalition for Access to Professional Engineering (CAPE), to review progress in implementing the ACDE Task Force recommendations. PEO and CAPE agreed to work together to communicate changes in PEO's admissions processes to stakeholders.
- ◆ PEO participated in the consultative process to develop the draft Professional Geoscientists Act, and is supportive of the current version.
- ◆ PEO staff met recently with the Ontario Association of Architects' (OAA) registrar to discuss how the two organizations can work together to address complaints against PEO members alleged to be practising architecture and OAA members alleged to be practising engineering. PEO and OAA will develop a policy on how such complaints are to be handled.
- ◆ The recently approved *Guideline for Human Rights in Professional Practice* has been posted on PEO's website, and a printed version will be available in the first week of July. A communications strategy to educate members and the public about the new guideline is being implemented. A news release announcing the new guideline was distributed to targeted media and relevant organizations in May.

(Strategic Planning, continued from p. 1.)

Following the brainstorming session, Councillors discussed how they could best go about developing a strategic operating plan. Components are expected to include a vision for PEO, from which development of goals, objectives, and work plans with timelines would flow. A process would also be put in place to ensure ongoing review and enhancement of the strategic plan.

However, Council could not reach agreement on who should draft the plan. Some Councillors suggested that the entire Council should work together to draft the plan, so that they would own the process, while others proposed appointing a subcommittee to prepare a draft plan for Council's approval. To facilitate a resolution, President Peter DeVita was tasked with drafting a strategic plan development process for Council's review and discussion at its June 30 meeting.

A proposal to amalgamate PEO's Guelph-Cambridge and Kitchener-Waterloo chapters is being presented to PEO Council June 30, as a notice of motion for debate at Council's September meeting. Details of the proposal are available on PEO's website. Comments on the proposal should be sent to Michael Chan, P.Eng., PEO chapter manager, by fax at (416) 224-8168 or 1-800-268-0496 or email at mchan@peo.on.ca

Putting a dollar value on your services

by Gayle Aitken, manager, research and communication



Engineering firms need to define their market and set their fees according to the value they can provide clients in that market, according to management consultant Gus Gillespie, P.Eng. A speaker in the professional development program at PEO's AGM on April 14, Gillespie discussed 10 practical rules of thumb engineers can use to differentiate their services, concentrate their efforts in areas in which they excel, overcome price as a determining factor and convince customers that the best value isn't always the lowest price.

He also mentioned that some manufacturers have eliminated accounts payable and receivable functions for their manufacturing components by reaching supplier agreements that include forecasting and delivery responsibilities. In these situations, Gillespie said, the supplier is paid on a contractual basis to make sure the client never runs out of parts.

Pricing Rules

Rule 1: Know the price range

- ◆ A firm's cost establishes the price floor.
- ◆ The value of a firm's product to the customer establishes the price ceiling.
- ◆ Research the position of your firm's critical competitors.
- ◆ Make your firm's price decision and stick to it.

Rule 2: Don't apologize

- ◆ Always be confident that your firm is giving excellent value.

Rule 3: Sell value

- ◆ Use features to differentiate your firm's services.
- ◆ Sell the benefits of your firm's solution.
- ◆ Close the loop, so that the customer understands value.

Rule 4: Offer alternatives

- ◆ Give the client different ways of saying "yes" to your proposal.
- ◆ Provide alternative solutions rather than just one assumption.

Rule 5: Negotiate value (not price)

- ◆ Never reduce price without reduce cost.

- ◆ If price is an issue, help your client reduce cost without sacrificing value.

Rule 6: Never low-ball

- ◆ Providing a price estimate that is lower than your firm's cost floor creates price expectations in clients.
- ◆ If your firm loses on a low-ball quote, your firm has lost credibility.

Rule 7: Reward yourself

- ◆ Price good work for good customers, and give your firm a fair return.

Rule 8: Tie payments to events

- ◆ Use milestones to trigger payments.
- ◆ Base the payment on customer-value, rather than input cost.

Rule 9: Don't quibble

- ◆ Remember: Your client expects your firm to solve their problems for them.

Rule 10: Know what happened

- ◆ If your firm won or lost, it's equally important to find out why.
- ◆ Track and manage your firm's win/loss ratio, so you can beat the statistical averages.

Introducing PEO Council, 2000-2001

Executive Committee

Peter M.A. DeVita, MASC, MBA, P.Eng.
President



Peter DeVita is president of DeVita Associates, a value-added distributor of IBM compatibles that specializes in custom-made, high-end servers and industrial systems. He has both a BSc and master's degrees in engineering from the University of Toronto, specializing in computer and environmental studies, and an MBA from York University. DeVita was on the board of the Canadian Society for Professional Engineers for 10 years, and was the society's president for two years. He has been a PEO member since 1975 and a government appointed Councillor from 1991 to 1997. He was Vice President in 1998-99 and President-elect in 1999-2000.

Patrick J. Quinn, P.Eng., FCAE
Past President



Patrick Quinn is a founder of Quinn Dressel Associates, a structural engineering firm that has designed the structures of landmark buildings in most major North American cities and in Europe, the Middle East and Asia. He is a Fellow of the Canadian Academy of Engineering, and of the Institution of Civil Engineers of Ireland, life member of PEO and the American Society of Civil Engineers, and honorary life member of Women in Science and Engineering. Quinn has served as a councillor of the Corporation of Engineers of Quebec, and on the executives of technical societies. He was PEO's President-elect in 1998 and President in 1999-2000.

G. Gordon M. Sterling, P.Eng.
President-elect



Gordon Sterling earned a bachelor's degree in mechanical engineering from the University of Toronto. He is currently chair of The Office Planners and Users Group, which conducts international conferences on office building environmental design. He served as East Central Region Councillor for four consecutive terms, was a member of the Willowdale-Thornhill Chapter executive for 25 years, and currently chairs the Professional Excellence Program Review Task Force. A volunteer on numerous PEO committees, Sterling received the Order of the Sons of Martha (now the PEO Order of Honour) in 1983. He was made an Officer of the Order of Honour in 1994.

Chris D. Roney, P.Eng.
Vice President (Elected)



Chris Roney holds an honours BSc degree in civil engineering from Queen's University. A third-generation engineer, he heads Roney Engineering Limited, a successful Kingston consulting firm offering a full range of structural engineering services related to building construction, investigations and restorations. Roney has participated on the Finance, Complaints, Communications, Regional Councillors, Regional Nominating and Enforcement Committees, and on the Task Group to review the Professional Excellence Program.

Richard W. Braddock, P.Eng.
Vice President (Appointed)



Richard Braddock received a bachelor's degree in civil engineering from the University of London. He is president of Mitchell, Pound & Braddock Ltd. A member of PEO since 1955, Braddock served on the Willowdale-Thornhill Chapter executive for several years, including a year as chapter chair in 1971. A member of the Canadian Society for Civil Engineering, he has served on its national executive as vice-president for Ontario. He chairs the Advisory Committee on Committees and serves on the Regional Councillors Committee. He also participated on the Joint Advocacy Implementation Committee.

Gina Cody, MEng, PhD, P.Eng.
Member, Executive Committee
Councillor-at-Large



In addition to her work at Construction Control Inc., Gina Cody has volunteered on a number of professional committees, including PEO's Professional Practice Committee, which she has chaired since 1996. From 1992-98, Cody was commissioner with the Building Evaluation Commission of the Ontario Ministry of Housing. President of the Toronto and Area Chapter of the Canadian Condominium Institute, she also chairs the Canadian Standards Association's Committee on Standards for Tower Cranes. Gina holds a MEng and a PhD from the Centre for Building Studies at Concordia University in Montreal.

Councillors

Councillors-at-Large

Gina Cody, MEng, PhD, P.Eng.
(See Executive Committee)

Denis Dixon, BEng, P.Eng.



After receiving his engineering degree from Liverpool University in 1961, Denis Dixon spent four years with Rolls Royce Ltd. From 1976 to 1988, Dixon was a consulting engineer in the United Arab Emirates, where he completed projects in Saudi Arabia, Oman, Pakistan and several Gulf Islands. Active in the Brampton Chapter since 1989, he was an executive member in 1989, vice-chair from 1989-90, and chair in 1990-91, 1996-97 and 1999-2000. He is also a member of the Canadian Society for Professional Engineers.

Daniela E. Iliescu, P.Eng.



Daniela Iliescu received her diploma of engineer from the Faculty of Electrical Engineering and Energetics at the University of Bucharest. She now heads the electrical department at Colt Engineering (Ontario) Corporation. Iliescu was a government appointed Councillor from 1992 to 1998 and has participated on the Discipline and Women in Engineering Advisory committees since 1992. She joined the Canadian Society for Professional Engineers in 1982. She is currently a member of the Toronto Conference Committee for the 2001 IEEE Petroleum and Chemical Industry Conference.

Regional Councillors

Northern Region Councillors

Bruce E. Clarida, BEng, P.Eng.



Since receiving his degree in civil engineering from Lakehead University in 1980, Bruce Clarida has worked for the National Energy Board of Canada as a division chief of the pipelines branch, and as senior project engineer with Kresin Engineering. Currently, he is senior civil engineer with Great Lakes Power Ltd. Clarida participates in a number of PEO committees, including Professional Practice and Education Outreach. He has served Algoma Chapter since 1991, and is a past chapter chair.

Tony Cecutti, P.Eng.



Tony Cecutti received his BSc in civil engineering from the University of Waterloo. He currently works as a project manager and designer for Sudbury's Earth Tech. Cecutti is active in many community activities, including the Regional Development Liaison Committee, the Laurentian University School of Engineering Advisory Board, and coaching minor hockey and soccer. He started the local PEO charity golf tournament, and received a certificate of appreciation for his work with students. As past chair of the Sudbury Chapter, he participated as chair of the START Committee for revitalization of the chapter system.

Eastern Region Councillors

Kenneth C. McMartin, P.Eng.



Kenneth McMartin is a graduate of Carleton University, where he received bachelor's and master's degrees in engineering. He has held the position of manager, civil and environmental engineering laboratories with Carleton University's Department of Civil and Environmental Engineering since 1982. McMartin has been a member of the Ottawa Chapter executive since 1988, and served as chapter chair from 1991-92. His other PEO volunteer service includes membership on the Fee Schedule, and Professional Engineers Awards committees. He currently chairs the Enforcement, Regional Councillors and Finance committees.

West Central Region Councillors

Colin S. Cantlie, P.Eng.



Colin Cantlie is a graduate of Queen's University, where he received a BSc degree in engineering physics and an MSc degree in electrical engineering. He joined Nortel's subsidiary, Bell-Northern Research, as a new grad in 1981 and has worked in system engineering, software design, technical management, software operations, development process definition (ISO 9000) and technical project management. Cantlie has been a director of the Ottawa Chapter for the past two years, and has worked with the PEO Communications Committee to expand Internet-based communication tools for chapter use.

East Central Region Councillors

Richard W. Braddock, P.Eng.

(See Executive Committee)

R. Anthony Warner, P.Eng.



Anthony Warner has been active with York Chapter since 1997, serving as awards coordinator and currently as treasurer. He holds a Certificate of Authorization and practises as a consulting engineer for the Virtual Engineers Collective. He received a Quebec Ministry of Industry and Commerce award for his work toward the economic development of Quebec while he was executive vice president, corporate affairs, for Le Groupe Westcan. Warner has a BSc chemical degree from the University of West Indies and an MSc degree from the joint MSc/MBA program at New York's Columbia University.

West Central Region Councillors

Danny Chui, P.Eng.



A graduate of the University of Calgary with a degree in civil engineering, Danny Chui has been with Exhibition Place since 1989. He was PEO Regional Councillor from 1994 to 1996 and from 1997 to present. He was appointed to the Executive Committee by Council during the 1995-96, 1997-98 and 1999-2000 terms, and served as Vice President (appointed) during 1998-1999. He is chair of the Finance Committee and also serves on the Discipline Committee. Chui has also been

active in the Mississauga Chapter, holding a variety of positions, including chapter chair.

George R. Comrie, P.Eng., CDP, CMC



Currently president, Data Design Systems Inc., George Comrie received a BSc degree and an MEng degree from the University of Toronto. His prior experience includes positions as principal, RMC Resources Management Consultants Ltd. (1986-1989); technical director, Ontario Police Information Centre (1980-1986); and associate, RMC Resources Management Consultants Ltd. (1975-1980). Comrie joined PEO in 1973 and has been an executive member of Etobicoke Chapter since 1990. He has been the convener for the Engineer-in-Residence subcommittee since 1999; chair, Education Committee (1996-1998); and a member of the School Outreach Committee (1993-1995).

Western Region Councillors

Thomas P. J. Hires, BAsc, P.Eng., CNE



Thomas Hires received his engineering degree from the University of Waterloo in 1982. Since then, he has completed IBM's PBSC course, and received his Novell CNE in March 1999. He is now upgrading his skills to Novell CNE NetWare 5.1 level. Hires' employment background includes HVAC design and development, sales and marketing, pre-purchase assessments, system failure investigations and indoor air quality technology development. A PEO member since 1990, Hires served on the London Chapter Executive for four years.

J. David Adams, P.Eng.



David Adams received a BEng degree from McGill University, and an MBA degree from the University of Western Ontario. He has worked as manager of administration and planning at Canadian Gypsum Company, manager of logistics and finance at Massey Ferguson, and president and owner of Canada Spool and Bobbin Company. He is now president of Quality Performance Engineering in Hanover, Ontario. Adams joined PEO in 1960 and has served on the executives of two chapters.

Appointed Councillors

Robert A. Goodings, P.Eng.



Robert Goodings was associated with the consulting engineering firm Gore & Storrie Limited (now CG&S) as a junior engineer, and finally as president and chair. Currently, he is called upon by CG&S for water and sewage planning assignments, water conservation studies, and water and sewage rate studies. Goodings chaired the Joint Advocacy Implementation Committee, and was named by PEO to serve on the First Directors board of the Ontario Society of Professional Engineers. Goodings holds a BSc in civil engineering from Queen's University.

Maureen C. Jensen, FGAC



Maureen Jensen holds a BSc (geology specialist) degree from the University of Toronto and is director of mining services for the Toronto Stock Exchange. Currently a director of the Prospectors and Developers Association of Canada, Jensen is also a member of the Executive Committee of the Canadian Institute of Mining, Metallurgy and Petroleum for the Toronto Branch, co-chair of the Minister's Advisory Board for Earth Sciences for National Resources Canada, a Fellow of the Geological Association of Canada and a member of the Association of Geoscientists of Ontario.

Kenneth G. Lopez, MASC, P.Eng.



A PEO member since 1956, Ken Lopez graduated from the University of Toronto with a BSc and an MSc in civil engineering. He retired in 1988 after 30 years with Transport Canada, managing the design and construction of multi-million dollar airport projects. Active in many community activities, he was vice chair for the Etobicoke Property Standards Committee, and is a past president of the Etobicoke Federation of Ratepayer's and Residents' Association. Lopez serves on PEO's Discipline Committee, and is president of the Royal York Community Association.

Nicholas (Nick) Monsour, P.Eng.



Nick Monsour received an honours BSc in mechanical engineering from the University of Toronto. In 1954, he took a position with Polysar Ltd. (later Novacor Ltd.), where he remained until retirement in 1991. A former Regional Councillor and chair of Lambton Chapter, Monsour was a member of numerous PEO Councils from 1974-1987. He served as President in 1985-86 and Vice President in 1994-95, and has been on several PEO committees. Monsour was made a Companion of the Order of the Sons of Martha (now the PEO Order of Honour) in 1988.

Maximus H. Perera, P.Eng., MASC, MBA



Maximus Perera held a variety of positions with the Ontario Ministry of Transportation from 1974 until his retirement in 1996, including senior transportation planner, and head of highway inventory and capital planning office. Perera serves on the Advisory Committees on Committees, and the

Government Affairs, Discipline and Academic Requirements committees. He was named by PEO to serve on the First Directors board of the Ontario Society of Professional Engineers. He has a mechanical engineering degree from the University of Ceylon and postgraduate degrees in civil engineering and business administration from the University of Toronto.

W. Laurier Proulx, CET



Laurier Proulx graduated from the Northern College of Applied Arts and Technology, Kirkland Lake, with an honours civil degree. He has been a member of the Ontario Association of Certified Engineering Technicians and Technologists since 1974. From 1976 to present, Proulx's work with the City of Kitchener has involved reviewing lot grading and storm water management plans. He was project manager on construction of the Kitchener City Hall from 1990-1993. Currently, he is a chief building official and director of the city's Facilities Management Division.

David J.D. Sims, BCom, LL.M, QC



Currently a partner in the law firm of Sims Thomson & Babbs, David Sims has extensive municipal, administrative, environmental and public law experience comprising civil and administrative board litigation, including the Ontario Court of Appeal and the Supreme Court of Canada. Sims holds bachelor and master's degrees in law from Osgoode Hall Law School, and a bachelor degree in commerce from the University of Toronto. He is co-chair of the Changes to the Act Task Force and Complaints Review Councillor, and also serves on the Enforcement Committee.

Thomas Sivalingham, C.Eng.



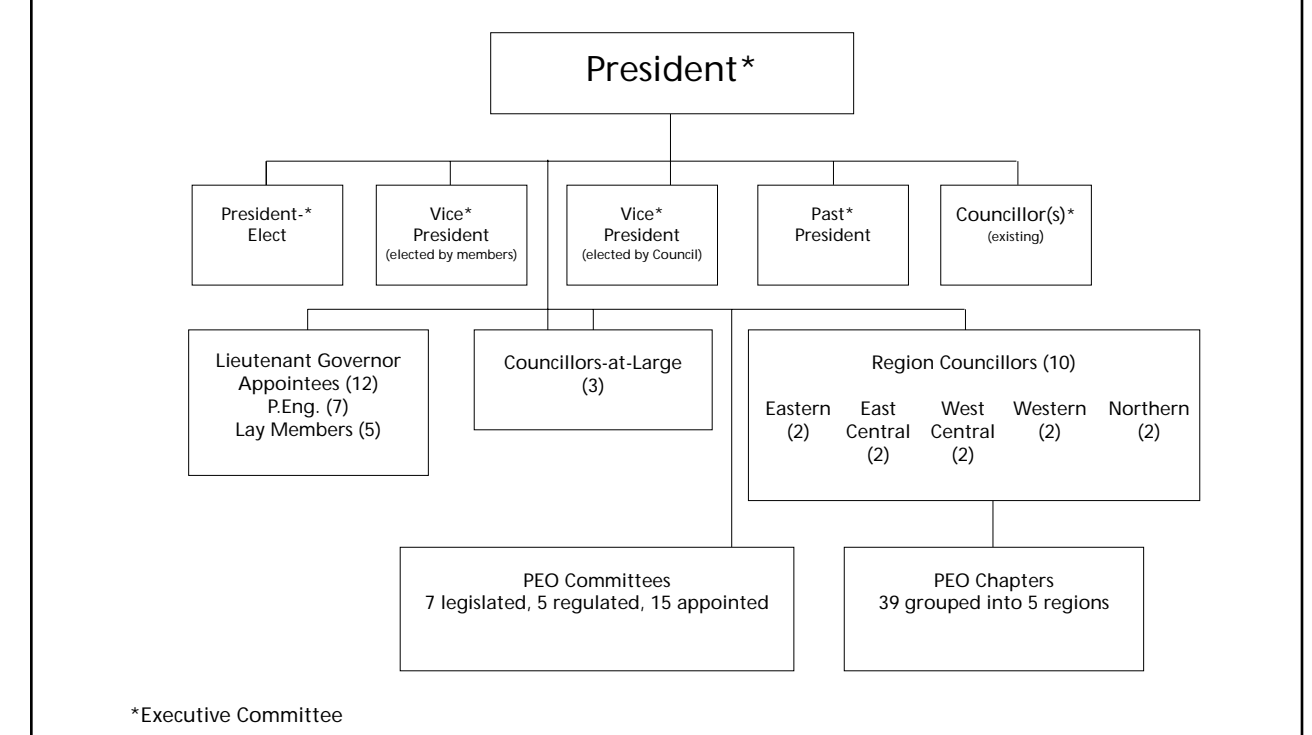
Tom Sivalingham received his bachelor of engineering degree from the University of Ceylon. His extensive professional experience has been with Aoki Corporation in Hong Kong as quality assurance manager; the Municipality of Metropolitan Toronto, Transportation Department, as an application technologist; and deputy director of the Road Development Authority in Sri Lanka. Sivalingham was an associate member of the Institute of Transportation Engineers, Washington, D.C., and the Ontario Association of Certified Engineering Technicians and Technologists. He is also a member of the Institution of Civil Engineers, London, U.K.

Gregory P. Wowchuk, P.Eng.



Gregory Wowchuk is a graduate of both Ryerson Polytechnical Institute and the University of Windsor, earning a diploma in electrical technology controls in 1979 and a bachelor of applied science in 1982. Following graduation, he worked as an engineer in the Defence Systems Division at Spar Aerospace until 1986. Since 1986, he has been president of Wheatfield Instrument Corporation Ltd., consulting in instrumentation, custom-designed, micro-processor-based controllers and automotive electronics. Wowchuk was chair of the Communications Committee from 1998 to 2000.

Council Structure



*Executive Committee

AGM roundtable: liability insurance, continuing competence national priorities

by Alison Piper

Over the past year, the burning issues for the profession across Canada have included continuing competence, the need for professional liability insurance and the continuing relevance of the engineering licence in today's rapidly changing workplace. This is according to representatives of provincial engineering associations and the Canadian Council of Professional Engineers who participated in a roundtable session held April 15 as part of PEO's annual meeting and conference.

Representatives of professional engineering and geoscience associations in Saskatchewan, Manitoba and British Columbia all reported on plans for implementing professional liability insurance programs for members. In Manitoba, where a Certificate of Authorization (C of A) program similar to PEO's is being implemented, liability insurance will be a requirement for individuals and firms seeking a C of A to provide engineering services directly to the public. The Saskatchewan and B.C. associations envision a low-cost, global program providing employment

liability coverage for all members.

Phil Sunderland, P.Eng., president, Association of Professional Engineers and Geoscientists of British Columbia, also discussed the progress of B.C.'s licensing program for software engineering practitioners, which was launched in 1999. He noted that 30 practitioners have been licensed to date, with 30 applicants currently involved in the process.

Peter Miller, P.Eng., president, Association of Professional Engineers and Geoscientists of Saskatchewan, said his association is implementing a professional excellence program, which will be voluntary for all members except consultants. "Professional excellence is mandatory; what we're talking about is whether reporting of it is," he said. The association is also now accepting applications for limited licences to practise professional engineering or geoscience—expected to come primarily from technologists.

According to president Darrel Danyluk, P.Eng., new initiatives for the Association of Professional Engineers, Geologists and Geophysicists of Alberta have included a "P7" summit—ongoing

meetings of the presidents of the seven licensing bodies in the province to discuss common issues. He said the major issues the association is now grappling with include relevance of licensure, regulation of software engineering and the need to raise members' awareness of the inter-provincial mobility agreement, since many work in other provinces, but too few are familiar with its implications and benefits.

Over the past year, the Association of Professional Engineers and Geoscientists of New Brunswick has seen new governing legislation proclaimed to enable licensing of geoscientists, about 20 professional geoscientists become members and implementation of practice reviews for consultants. Wolfgang Faig, P.Eng., president, said other progress has included a decision by the New Brunswick government that either a licensed engineer or geoscientist must take professional responsibility for, and sign off on, environmental assessments conducted in the province.

Legislative reforms

In Nova Scotia and Quebec, revisions to Professional Engineers Acts are currently in the works.

Ron Gilkie, PhD, P.Eng., vice president, said the Association of Professional Engineers of Nova Scotia (APENS) anticipates having revised legislation introduced to the provincial legislature during the fall session. Proposed amendments include provisions for licensing geoscientists. The changes would also see certain responsibilities related to the association's discipline procedures shifted from its council to discipline panels, and stiffer penalties for members found guilty of professional misconduct.

Proposed revisions to Quebec's Professional Engineers Act are aimed at overall modernization, as well as requiring members to follow the Order of Engineers of Quebec's code of ethics as a standard in their professional practice and providing the order with greater powers to prosecute illegal practice.

"Last fall, despite broad-based consultation, opponents to the proposed act amendments made themselves heard," thus further stalling the legislative process after several years of delay, said Rene

Morency, ing., the order's vice president of corporate affairs. "The delays haven't stopped us in efforts to prevent illegal practice. We have increased our enforcement budget by 400 per cent and are now taking a closer look at professional practice in industry."

National news

Reporting on the profession at the national level, Richard Hancock, P.Eng., chair, Canadian Council of Professional Engineers (CCPE), noted that he had never seen a year marked by "so much controversy in different areas," including a legal settlement reached with Memorial University of Newfoundland over its use of the term "software engineering" for a computer science program. He said CCPE is anxiously awaiting the findings of the expert panel on software engineering, which was set up to make non-binding recommendations on the appropriate use of the term "software engineering" by Canadian universities, as part of the legal agreement with Memorial. The panel is expected to deliver its report and recommendations by September.

The brain drain: Stemming the tide

by Gayle Aitken, Manager, Research and Communication

Every survey about recent Canadian science and technology graduates who move to the United States to accept jobs shows that the deciding factor is a challenging position with an opportunity for growth. Tax rates, stock options, health care and other considerations are secondary, according to David Paterson, executive director of CATA Alliance, a national trade association comprising over 1000 "new economy enterprises."

On May 11, PEO's Toronto Dufferin and Kingsway chapters joined forces to host a seminar at which they heard Paterson's perspective on how the "brain drain" is affecting Canada's engineering and scientific communities and their ability to be innovative. Paterson maintained that Canadian companies need to offer compensation that is competitive on the North American scale to keep new graduates in Canada.

When newly graduated professionals, like engineers, leave the country, said Paterson, they are unlikely to return because they will put down roots and start creating wealth south of the border. He explained that the outcome is that the American economy, not the Canadian one, benefits from the innovation they create as a

result of the investment in their education. To Paterson, Canadian



On May 11, 2000, at the Lambton Golf & Country Club, PEO's Toronto Dufferin and Kingsway chapters joined forces to hear CATA Alliance Executive Director David Paterson's perspective on the "brain drain." Shown (left to right) are: Bill Jablonsky, P.Eng.; William Dale, P.Eng.; Barry Westhead, P.Eng.; Clair Baker, P.Eng.; Patricia Cabeza, P.Eng.; CATA Alliance Executive Director David Paterson; and Andre Rudnicki, P. Eng.

industry needs to display leadership to stem the tide, because government does not realize how rapidly change is occurring.

Government initiatives to increase the supply of "brains" and stop the "drain" are starting to have some effect, Paterson pointed out. For example, the Ontario provincial government's SuperBuild program is committed to providing \$80 million in funding from 1999-2000 for infrastructure renewal for buildings and equipment at universities and colleges. This will enable faculties of applied science to modernize their equipment and buildings.

In addition, Canadian companies need to start moving more quickly to retain graduating students, Paterson said, noting that American firms seek out and reward the major-league "stars," who can create innovation that will add to their bottom line. According to Paterson, Microsoft's Bill Gates, who hires the top grads from Waterloo every year, has maintained for years that "all

the best code is written by 5 per cent of the programmers."

According to Statistics Canada, 25,000 Canadians are lost to migration to the United States annually. Speaking at a public forum entitled "Brain Gain, Brain Drain" held May 25 at the St. Lawrence Centre, Scott Murray, director, General Social and Institutional Statistics Division, said this flow is the lowest since 1851.

Murray maintains that even though statistics show 15 per cent of postsecondary graduates moved south of the border following graduation in 1995, and the flow to the U.S. under temporary worker visas is 98,000 annually, about half of our professional migrants will eventually return to Canada.

However, Paterson said every census shows a population several hundred thousand below Statistics Canada's latest estimate, because emigration is underestimated. He added that there is more reliability in Industry Canada's estimates that 15,000 to 21,000 skilled workers moved from Canada to the United States in 1997, under a combination of permanent and temporary visas and intra-company transfers.

Why University of Waterloo graduates leave Canada

Hugh Kerr, PhD, P.Eng., professor emeritus in the Department of Mechanical Engineering at the University of Waterloo, surveyed 89 of this year's graduating students in his faculty about whether they planned to make their careers in Canada. The results were inconclusive. Although about 80 per cent indicated they generally want to stay in Canada, 25 per cent indicated they would consider leaving for a while, and almost 50 per cent indicated they would at least consider leaving permanently.

Following are the top seven reasons graduates cited for wanting to either stay in Canada or work in the United States.

Top Reasons for Staying

1. Family
2. Lifestyle (safer, kinder, slower pace)
3. Friends here
4. Patriotic
5. Health care, social benefits
6. Do not like the U.S.
7. Like Canadian seasons/winter

Top reasons for leaving

1. Salary
2. Better job opportunities
3. Travel or cultural experiences
4. High Canadian taxes
5. Most interest from/faster response by U.S. firms
6. Cold Canadian winters
7. Too little R&D in Canada

Why innovation is like hockey

According to David Lindsay, president and CEO, Ontario SuperBuild Corporation, Canadians could encourage entrepreneurial people to stay in Canada if the national dream about hockey were applied to innovation. He told attendees of the Brain Gain Conference, sponsored by the Ontario Challenge Fund, and held June 1 in Toronto, that like hockey, innovation should involve:

- ◆ high risk;
- ◆ many people with different skills;
- ◆ instilling internal values in players at an early age;
- ◆ rewarding individual track records;
- ◆ major support nation-wide;
- ◆ a passion that is part of the national culture.



York Chapter forum calls for wise water use by growing cities

by Alison Piper

Hotly contested by Richmond Hill residents and local politicians for the past several months, the proposed development in the Oak Ridges Moraine would involve construction of about 17,000 homes and water supply and sewage systems on land currently designated as rural. In the wake of the controversy, PEO's York Chapter hosted a public forum on the impact of urban development on water quality and conservation May 4.

Held at the Richmond Hill Public Library, the forum featured presentations by Miriam Diamond, PhD, a professor and environmental researcher with the University of Toronto's departments of geography and chemical engineering; Deborah Korolnek, P.Eng., long-term water project manager, York Region; and Dale Downie, P.Eng., director, water resources, for Markham consultant Cumming Cockburn Limited.

Diamond discussed the results of U of T's research involving surface water quality, noting that "environmental degradation comes back to haunt us because the resources we use are finite."

Calling urban areas "chemical concentrators," she noted that there's a shift away from industrial to residential pollution in our cities. Since sewage treatment plants are not designed to remove many of the chemicals found in the products we use,

such as pharmaceuticals, shampoos, detergents and dyes, these chemicals are finding their way into surface water bodies, she said. Other sources of water pollution include particles from such air pollution sources as vehicle exhaust and municipal incinerators, which eventually find their way into water.

Another problem area is detention ponds, which have been built to handle storm water runoff without recognizing the potential for contamination from such sources as salt from roads and soil, she said, pointing out that detention ponds tested by U of T have shown concentration levels of several contaminants that exceed provincial guidelines.

"What the data suggest is that we need to monitor our water bodies and take measurements," Diamond said. "We need more data. We also need a better handle on emission sources. We need to find out where chemicals are coming from, so we can put source controls in place."

Deborah Korolnek said York Region's long-term water supply strategy was developed to meet the challenge of providing water services for a population expected to double to 1.3 million by 2031 and manage "potentially huge capital costs."

"We decided to use the master plan approach, which fits in with the environmental assessment process," she said. "We looked at 14 Great Lakes-based supply options and used technical, finan-



At York Chapter's recent public forum on water quality and conservation, experts debated whether an adequate supply of potable water can be sustained to meet ever increasing demand. In the front row (left to right) are: storm water management specialist Dale Downie, P.Eng.; Deborah Korolnek, P.Eng., York Region's long-term water project manager; and Miriam Diamond, who is cross-appointed to U of T's geography and chemical engineering departments. In the back row (left to right) are: Eric Nejat, PhD, P.Eng., chair of the organizing committee; Glen Waugh, president, Rotary Club of Richmond Hill; and John Schindler, P.Eng., organizing committee member.

cial and environmental criteria. We had 16 subconsultant teams working on studies." The resulting strategy involves a mix of cost-effective supply sources, which is continually monitored and updated, as needed. It also involves a water efficiency program, which saves the region 5.6 million litres of water a day through leakage reduction, residential and commercial retrofits, water use audits

and public education.

Dale Downie, a storm water management specialist, discussed sustainable water use, noting that it involves maintaining a balance among the four components of the water cycle—precipitation, surface runoff, infiltration into soil and plants, and storage in underground aquifers. "Can an adequate water supply be maintained in York Region with an

ever growing populations?" he asked the audience. "We need to look at the four components and find out where the balance is, but I am convinced that we can."

He also stressed that meeting demand for potable water is not just up to government: "It's also up to individuals. We need to get on board with water conservation efforts, in order to balance supply and demand."

Engineering for the future: sustainable development

by Karen Hawthorne

Environmental concerns such as global warming, pollution and over population are a wake-up call for change, said leaders of the engineering profession at an April seminar on sustainable development hosted by PEO's Environment Committee.

Keynote speaker Nicholas Sonntag, who is president of international consulting firm CH2M Gore and Storrie Ltd., said that humanity's knowledge, science and technology have set us on a path that's not sustainable and threatens to make us victims of our own success.

"My fear is we're going to have a catastrophe of some sort, before people understand where we're headed," said Sonntag. "Right now sustainable development is considered a noble cause without much application. But we have to develop and sell it as a good business decision."

Sonntag called for engineers to break out of the traditional "take-make-waste" model, which draws freely on energy, materials and ecological resources under the assumption that they are limitless.

For example, he said, society's production efforts are largely directed toward finding cheaper ways to extract more resources, not on ways to recycle or use less.

By contrast, he explained, sustainable development requires new manufacturing processes, more use of recyclable materials

and the development of regenerative or recyclable output components. It requires an approach that imitates natural or biological processes.

"We've got to think outside of the box and be more creative," he said, challenging engineers to become ecological innovators, developing technology that improves the quality of life and protects the planet.

Mori Mortazavi, P.Eng., also spoke about the critical role to be played by engineers in the 21st century. As chief engineer of geo-environmental and hydrogeological services for Peto MacCallum Ltd. in Toronto, Mortazavi has worked on more than 500 major environmental site assessment, remediation and restoration projects.

"Our paramount duty as engineers of protecting public safety, health and welfare, and the environment makes all other requirements of our profession subordinate," he said. "From this, we have a larger social responsibility, and we have the role of environment caretaker."

The seminar also featured presentations on initiatives underway at BMW and the Regional Municipality of Waterloo.

Sustainable wheels

Tobias Nickels, PhD, corporate communications manager at BMW Canada, spoke about the top-rated recycling efforts of the

company. "Most manufacturers finish with the assembly and the final paint, but they don't think about taking it [the car] apart and putting it back in the box," he said, stressing that BMW's goal is to recover as much material as possible at the end of a vehicle's lifecycle. The company has established a project that helps engineers in the research department develop cars with recycling and recovery in mind.

"Each car is like a puzzle of 30,000 parts, which you've got to put together and take apart again," said Nickels, pointing out that BMW built a disassembly plant in 1987 to target the recycling of its products in Germany.

Currently, the company's engineers are looking at alternative natural fibre materials and developing Earth-friendly processes, he said. For example, BMW uses powder paint, which is more efficient than liquid spray because excess paint from one car can be recovered and reused on the next car on the line.

The company is also fast pursuing alternative fuels, specifically hydrogen, to power the vehicles of the future.

Landfill gas now energy source

Linda Churchill, P.Eng., operations engineer for the Regional Municipality of Waterloo's waste management division, discussed how public-private partnerships

have reduced energy consumption and greenhouse gas emissions at the Waterloo and Cambridge landfill sites. The region is in the enviable position of having adequate waste disposal capacity approved for its residents for the next 30 years.

A landfill site expansion for Waterloo was approved in 1991, requiring odour control measures to be put in place. Following a study on how to control odour, a gas collection system was designed and installed, said Churchill. "As part of the study, an evaluation of gas use options was completed and [we found that] it was logical to use the gas for an energy source, if possible."

However, the region's engineering department is mandated to provide essential public works—and since providing an energy source falls outside that mandate, it looked to the private sector for help. At the Waterloo landfill site, Toromont Energy was chosen, and a 20-year agreement was signed to generate electricity at the site. At the Cambridge landfill, a neighbouring industry, Gerdau Courtice Steel was selected. A 20-year agreement will see the company pipe landfill gas into a re-heat furnace at its steel recycling facility, Churchill explained.

"These private industries are using a landfill by-product to replace an energy source that would otherwise contribute to global warming," she added. "It was a challenge to complete these

projects, but also a tremendous opportunity to come together with a project that made good environmental and business sense."



"Right now sustainable development is considered a noble cause without much application. But we have to develop and sell it as a good business decision," says Nicholas Sonntag, president, CH2M Gore and Storrie Ltd. Sonntag was the keynote speaker at the Environment Committee's spring seminar on sustainable development issues.

IN MEMORIAM

The association has received with regret notification of the deaths of the following members:

Erich Ahermae
St. Catharines, ON

James Alexander
Burlington, ON

James Anderson
North York, ON

John H. Anderson
Smith Falls, ON

Ching C. Ang
Ottawa, ON

Albert Ayoub
Brampton, ON

Emery Bagi
Thornhill, ON

Larry L. Barkley
Ridgeway, ON

Alexander D. Bell
Beaconsfield, QC

A. Keith Bernard
Burlington, ON

Cyril E. Blackburn
Mississauga, ON

Bruce M. Breerton
Coldwater, ON

Ronald D. Brown
Waterloo, ON

William P. Buck
North York, ON

Edward J. Buell
Lewiston, NY

Victor E. Burgess
Essex, ON

Earl M. Byrnes
Victoria, BC

Charles Carter
Thunder Bay, ON

Jan Chmielowski
London, ON

Leonard Chwedchuk
Ottawa, ON

Peter Coghlan
Guelph, ON

Russell W. Cornell
St. Laurent, QC

John J. Cuddihey
Ottawa, ON

Kenneth H. Darke
Timmins, ON

Gordon T. Davis
Peterborough, ON

Robert E. Dawson
Islington, ON

Kenneth G. Dellenbach
Burlington, ON

Fred C. Devisser
Etobicoke, ON

Merrill Dillon
Kitchener, ON

Michael J. Duffy
Beamsville, ON

Charles E. Ells
Deep River, ON

Michael J. Evans
Sarnia, ON

Frank Feenstra
Hamilton, ON

Wilfred Fenton
London, ON

Norris H. Fink
Nepean, ON

Richard N. Flaherty
Scarborough, ON

Donald C. Flamank
Ottawa, ON

Walter C. Friedmann
Oakville, ON

Harry S. Galloway
Burlington, ON

Oskar R. Gaube
Niagara Falls, ON

Mijo Gmazel
Toronto, ON

Sidney Gorenstein
North York, ON

Alexander C. Gray
Hamilton, ON

Harry W. Green
Niagara Falls, ON

Lewis E. Hanley
Toronto, ON

David W. Harvey
Barrie, ON

Frederick J. Heath
North York, ON

Nicholas J. Hirt
Sault Ste. Marie, ON

Ross A. Hogsden
Kilbride, ON

Leslie S. Holloway
Toronto, ON

William H. Hopper
Scarborough, ON

Chen S. Hsiao
Scarborough, ON

Alexander J. Hutcheon
Yorkshire, UK

Wesley D. Hutchinson
Mahone Bay, NS

John M. Jardine
Ottawa, ON

Yuzhou Jin
Scarborough, ON

Israel Jourdan
Toronto, ON

Garnet H. Kay
Mississauga, ON

J. M. Patrick Kelly
Carleton Place, ON

Peter J. Killaby
Minden, ON

John B. Kingdon
Ridgeway, ON

Gyan Kohli
Toronto, ON

Charles A. Krause
Toronto, ON

Anthonie J. Krusysse
Ridgeville, ON

Ambrose J. LaBerge
Miramichi, NB

Bruce E. Lang
Scarborough, ON

John E. Lee
Scarborough, ON

Andrew A. MacIsaac
Burlington, ON

William M. MacLeod
Burlington, ON

Donald F. MacRae
Kitchener, ON

William J. Malone
Brampton, ON

John P. Marton
Oakville, ON

Clayton McAulay
Etobicoke, ON

Victor I. McCallum
North York, ON

William J. McCaw
North York, ON

William A. McDougall
Thamesford, ON

James W. McLellan
Ottawa, ON

William N. Meikle
Waterloo, ON

Albert E. Mills-Hughes
Mississauga, ON

Ian W. Mitchell
Trenton, ON

Clayton P. Moore
Calgary, AB

J. Ross Moore
Orangeville, ON

Frederick H. Newman
St. Catharines, ON

Steve Oancia
Ottawa, ON

Eugene F. O'Keefe
Scarborough, ON

John J. Oldaker
Toronto, ON

George D. Palser
Guelph, ON

Ian D. Patterson
Waterloo, ON

Arthur Paulin
North York, ON

James I. Petersen
Thunder Bay, ON

Gordon W. Procnier
Etobicoke, ON

Michael Prosser
Mississauga, ON

Wilbur C. Purcell
Belleville, ON

John L. Quelch
Oshawa, ON

Arthur R. Rattew
Dunrobin, ON

William D. Reid
Sarnia, ON

Cecil Rhodes
Brantford, ON

Robert J. Roach
Sudbury, ON

Earl A. Russell
Mississauga, ON

Stewart H. Russell
Ottawa, ON

Aksel Salumets
Islington, ON

Henry Schafer
Mississauga, ON

Archibald N. Sherbourne
Waterloo, ON

Frank Shum
North York, ON

John Sirola
Cobalt, ON

Harold A. Smith
North York, ON

Harold W. Smith
Stittsville, ON

Leon V. Smith
North York, ON

Herman Soehodho
Cobourg, ON

James A. Stenhouse
Weston, ON

Henry Stewart
Campbellville, ON

Josef Tatak
Mississauga, ON

George R. Tilly
Scarborough, ON

Stanko Titan
Whitby, ON

Plewes H. Tooker
Midland, ON

Simon Tsang
Kowloon, HK

Lewis W. Vaughan
Rexdale, ON

James B. Wallace
Brockville, ON

Irving Waltman
Toronto, ON

Henry Wethey
Ottawa, ON

Stuart N. White
Co. Down, IE

Lloyd H. Wickwire
Ottawa, ON

Walter G. Wigle
Kingston, ON

Gordon E. Willey
Port Perry, ON

Charles I. Wilson
Toronto, ON

Clayton A. Wrenshall
North York, ON

Woon Y. Wu
Croydon Surrey, UK

CHAPTER CALENDAR

PEO Chapter Calendar lists upcoming chapter meetings and events. Send listings to: Sharon Gillam, Field Operations, PEO, 25 Sheppard Avenue West, Suite 1000, Toronto, ON M2N 6S9; fax: (416) 224-8168; email: sgillam@peo.on.ca. Deadline for the October/November 2000 issue is September 28, 2000.

AUGUST

August 13, 2000

SCARBOROUGH—Summer BBQ and Kite Contest, Bluffer's Park. Time: TBD. Cost: TBD (depends on interest). The summer is a perfect time to have a BBQ, network with your fellow engineers and their families, and just relax and have fun. The Scarborough Chapter is proposing a summer barbeque at a popular Scarborough landmark, Bluffer's Park. This is an event for the whole family. In keeping with the engineering theme, we will be having a kite flying contest, so break out those kite engineering skills and work with your kids to build the best kite ever! **Contact:** Denis Carlos, P.Eng., email: deniscarlos@canada.com or Gordon Ip, P.Eng., email: gordonip@home.com; tel: (905) 316-2682 (business).

August 23, 2000

LAKE ONTARIO—Family Fun Day, Whitby Recreation Centre, Rossland Road, east of Brock Street, Whitby. Time: 2-4 p.m. Bring the family for some wet and wild fun, followed by a barbeque lunch. **Contact:** Nick Colucci, P.Eng., tel: (905) 433-0061; fax: (905) 433-7942; email: info@coluccipools.com

THE LINK

Publisher.....Connie Mucklestone

Managing Editor.....Alison Piper

Associate Editor Karen Hawthorne

Assistant EditorSusanne Frame

Graphic DesignDarren Richards

.....Rick Eskins

The Link (ISSN 1205-5832) is published bimonthly by the Association of Professional Engineers of Ontario.

The Link publishes news of PEO membership programs and activities. Content does not necessarily reflect the opinion or policy of the association.

Address all communications to:
The Editor, *The Link*,
PEO, 25 Sheppard Avenue West, Suite 1000,
Toronto, ON M2N 6S9.

Tel.: (416) 224-1100 or (800) 339-3716
Fax: (416) 224-8168 or (800) 268-0496
Website address: <http://www.peo.on.ca>

Subscription: \$6.00. For PEO members; this fee is included in the annual membership fee paid to the association.

Periodical Postage Paid
Lewiston NY
USPS #014-136
U.S. office of publication, 5 Colomba Dr.,
Niagara Falls, NY

U.S. Postmaster send address corrections to:
The Link: P.O. Box 1205, Lewiston NY 14092
Printed in Canada by Web Offset.