

NEW PRESIDENT SEEKS COLLABORATIVE APPROACH TO GOVERNING

By Michael Mastromatteo



Catherine Karakatsanis, P.Eng., takes over as PEO president May 9 to thunderous approval.

Outgoing Councillor-at-Large Richard Weldon, P.Eng., receives thanks for his service from outgoing President Dave Adams, P.Eng.

PEO's 2009 annual general meeting was marked by an outgoing president's expressed disappointment at not achieving all of his goals, and a new president's optimistic call for increased collaboration among all stakeholders to advance engineering self-regulation.

Held May 9 in Toronto, the annual showcase event included the standard elements: the final report from outgoing President Dave Adams, P.Eng., member submissions, the introduction of new (Allen Jones, P.Eng.; Paul Ballantyne, P.Eng.; Bruce Clarida, P.Eng.; Thomas Chong, P.Eng.) and returning council members, tributes to outgoing councillors (Walter Bilanski, PhD, P.Eng.; Richard Weldon, P.Eng.; Nick Colucci, P.Eng.; Peter DeVita, P.Eng.), reports from other engineering regulators and stakeholders, and the passing of the gavel.

The annual general meeting was preceded May 8 by the inaugural conference of the Ontario Centre for Engineering and Public Policy (OCEPP) (p. 10) and that evening's induction into PEO's Order of Honour of 11 outstanding volunteers.

But it was with a sense of regret that Past President Adams reflected on his term at the PEO helm in his outgoing remarks.

In reviewing his 10-point Work Plan, promoted on his succession last spring but largely unsupported by council, Adams could not mask his frustration, much of it stemming from council's ambivalence on the ambitious national framework for membership and

licensing, which has been promoted as adding value to the traditional engineering licence (see *Engineering Dimensions*, March/April 2009, p. 22). While many other provincial engineering regulators have endorsed the vision for and principles of the new licensing model, PEO council has yet to extend its full support.

Adams also expressed his annoyance with council's apparent rejection of his 10-point Work Plan last summer, which he had thought, he says, they supported in principle.

Ironically, some key elements of Adams' plan were achieved in 2008-2009, including the acquisition of a new corporate headquarters for PEO, and the creation of OCEPP. However, other elements of the plan, such as progress on the national licensing model, the removal of the industrial exception clause in the *Professional Engineers Act*, mandatory professional development, and the further development of practice standards, were not council's priorities.

In the end, Adams railed against the inability of a PEO president to implement a mandate supported by those who voted for that president, if council is not agreed this should be the year's work plan.

"I am totally perplexed and not very happy about it," Adams said. "I think [what's needed] is leadership. If you're to elect people, you should expect them to lead. I've never been in any organization where the new person coming in didn't set down some of the important things that he felt should be

accomplished. Not all of them get done, we know that, but he must set direction.”

He later suggested PEO has fallen behind other engineering groups in its governance effectiveness.

In outlining her plans for a more collaborative approach to PEO governance, new President Catherine Karakatsanis, P.Eng., praised Adams and the outgoing council for notable achievements over the past year.

“During the past year, PEO has demonstrated continued diligence in preserving our mandate as a self-regulated profession through proactive government relations, the creation of OCEPP, and through the definition of areas of practice,” Karakatsanis said. “I thank Past President Dave Adams for his hard work and service this past year. Many important matters still remain unresolved and there’s still much to do.”

The new president also outlined a couple of personal priorities, including better use of council workshops, the identification of strategic priorities, effective continuity, and the eventual creation of a PEO professional development system.

She said the regulator is responsible for standards of qualification, knowledge, skill, practice and ethics, and to ensure that licence holders continue to meet these standards.

“I believe a professional development system, in which all licence holders participate, is necessary to continue to ensure transparency for all PEO stakeholders, including the public,” she added.

But it was on the subject of collaboration and shared leadership that the new president drew the biggest response.

“It has been said that one person can be a crucial ingredient on a team, and that’s true,” Karakatsanis said. “But one person cannot make a team. It’s my belief that the president should not alone determine the direction of PEO, or be its only public face. He or she must lead council and, together as a team, determine the direction of PEO.

“During my term, I will rely heavily on the very strong group dynamic that comprises PEO council. We have a very talented, intelligent, capable mix of professionals on council, and the positive results we will achieve with our work this year will stem from a collaborative effort. For it is as a group, collectively, that we, the council members of 2009 and 2010, are ultimately accountable for our actions. It’s not just me alone.”

In addition to the outgoing and new president’s comments, the meeting featured a provocative submission from member Raju Chander, P.Eng., chair of PEO’s Scarborough Chapter. Chander’s submission, that PEO’s elected council members, including the president, vice president, councillors-at-large and regional councillors, not hold the same position for two consecutive terms, was supported in a close 54-52 straw vote. Whether to take action on the submission will next be considered by the Executive Committee and council, informed by the discussion at the annual meeting.

The annual meeting agenda also included brief reports from guests representing other engineering regulators and such partner organizations as Engineers Canada and Consulting Engineers of Ontario.

The 2009 meeting included comment from Dick Fletcher, P.Eng., outgoing president of Engineers Canada, and Annette Bergeron, P.Eng., newly elected president and chair of the Ontario Society of Professional Engineers (OSPE).

Fellow regulators bringing greetings included Tim Smith, P.Geo., a past president, Association of Professional Engineers and Geoscientists of British Columbia (APEGBC); Jim Beckett, P.Eng., president, Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA); Shawna Argue, P.Eng., president-elect, Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS); Donald Himbeault, PhD, P.Eng., president, Association of Professional Engineers and Geoscientists of

Manitoba (APEGM); Zaki Ghavitian, ing., president, Ordre des ingénieurs du Québec (OIQ); and Steve McLean, P.Eng., executive director, Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL).

Common themes in their reports included professional mobility for engineers, the integration of internationally educated applicants, ongoing profes-



Tim Smith, P.Geo., a past president, Association of Professional Engineers and Geoscientists of British Columbia, brings greetings from his membership to PEO.

sional development, climate change as a priority for the profession, and promotion of engineering as a career choice for young people.

At the AGM luncheon immediately following the business meeting, now Past President Adams presented the V.G. Smith and S.E. Wolfe Thesis Awards to M.A. Don Dhanakantha Peiris, P.Eng., and Douglas Allan Davies, P.Eng., respectively.

Luncheon speaker Tom Adams, an energy consultant, outlined what he feels are weaknesses in the use of wind as a viable power source.

FIRST OCEPP CONFERENCE addresses innovation in Ontario

By Jennifer Coombes

Despite a tightly packed schedule, the Ontario Centre for Engineering and Public Policy's (OCEPP) first conference moved along with military precision. More important than timing, however, was the timeliness of the information delivered at the May 8 event, which was themed around Ontario's innovation agenda.

Echoing that sense of timing was a letter from Energy and Infrastructure Minister George Smitherman printed in the conference brochure. In it, Smitherman said: "It is a fitting time in the province's history for professional engineers to be addressing 'Ontario's Innovation Agenda,' as a renewal is taking place in the province's energy and infrastructure sectors.... Professional engineers will have much to contribute as we develop new approaches to energy conservation and the creation of green technologies, and as we improve our roads, schools and public transit."

OCEPP Executive Director Donald Wallace, PhD, dove right in with an update of the events and activities that have marked the centre's whirlwind first year of operation. He also re-emphasized the important role engineers play in innovation as a means to help Canada compete. "It's no longer viable to hide our light under a bushel," Wallace said.

With that, he turned the microphone over to John Wilkinson, then minister of research and innovation.

Wilkinson told attendees the innovation agenda is all about understanding the global challenge and our role in it. Two particular challenges he sees are the world's hunger for interconnectivity and curing disease. "We should be very proud of the BlackBerry as a contribution to the first challenge, and our biomedical community leads the world, particularly with breakthroughs in stem cells," Wilkinson said.

"Engineers have to be part of these tremendous opportunities. The line of people with problems is long. The people with solutions are seen first," he added.

Amit Chakma, PhD, now president of the University of Western Ontario, spoke about policy challenges for complex issues. Some of the issues he mentioned—the mortgage and SARS crises, and China's and India's economic growth—are examples of local actions/inactions that have global implica-



John Wilkinson, then minister of research and innovation (left), greets outgoing President Dave Adams, P.Eng. (right), and Howard Brown, president, Brown & Cohen Communications & Public Affairs Inc.

Doug Reeve, PhD, P.Eng., professor and chair, chemical engineering, U of T, addresses the issue of what the *Green Energy Act* means for Ontario. Other participants in the panel, left to right: PEO CEO/Registrar Kim Allen, P.Eng., Ontario Power Authority CEO Colin Andersen, and David Butters, president, Association of Power Producers of Ontario.

tions. He also referred to a recent BBC piece that reported a growing world population will cause a "perfect storm" of food, water and energy shortages by 2030.

To tackle these challenges, he said, we need to bring thinking that is integrative—technologically savvy, and having cultural awareness and a sense of history.

He added that universities are not doing a great job and require input from the profession to meet the needs of our time. Chakma also said Canada needs a bold science and technology vision that is forward-looking, focused, and has the scale to make an impact. Research funding in Canada, he said, is on a whole different scale than in the US. While the average Canadian university research grant is between \$40,000 and \$200,000, the robotics department at Carnegie Mellon University typically receives \$60 million.

His message for PEO colleagues: “Work with us, work with universities. If not, we won’t have the impact we need to have.”

WHAT IT MEANS TO BE GREEN

Kim Allen, P.Eng., PEO’s CEO/registrar, started a panel discussion on what the *Green Energy Act* (GEA) means for Ontario with an introduction, in his words, of what the act intends, namely a decrease in pollution and greenhouse gases, and an increase in energy conservation, meaningful jobs and development for rural and First Nation communities.

Colin Andersen, CEO, Ontario Power Authority, said the act is an opportunity to bring together business, government and many other sectors to develop solutions for our energy challenges. One challenge he cited is integrating renewable energy, which is decentralized and intermittent, and coal-fired energy, which is centralized and must be constantly fed. Andersen said the act will naturally provide the greatest opportunity for the energy sector as it will stimulate new industry.

On the topic of engineers and public policy, Andersen said there was a time when engineers spoke only to engineers, but there is now more interaction with business development people, lawyers, accountants, and so on. Because each of these disciplines has its own language and approach, he said, engineers can’t expect to live in a world of order and logic, and everyone must listen carefully and not presume even the most basic information is understood.

Andersen said the engineers who come across as most relevant say here’s *how* to do something and answer more than the question asked.

David Butters, president, Association of Power Producers of Ontario, said he believes the GEA to be innovative, forward-looking, and potentially game-changing in its impacts. Its new framework will make it easier to bring renewable energy projects to Ontario, he added, making the province a green energy leader. However, Butters explained, in redefining the objectives for Ontario’s energy sector by integrating the environment, climate change, health and the economy, consumers will see new costs. In the past, he noted, the electricity sector balanced consumer pricing and reasonable returns for long-term investment in generation and transmission. Moving Ontario to a much greater reliance on intermittent resources will mean new investment. However, the benefits will be dispersed broadly across many economic sectors over many years, while the immediate costs will be increasingly visible on electricity bills.

Overall, Butters said, “We’ll still need a balance between variable green energy, reliable emission-free nuclear and hydro, and low-emission generation.”

Doug Reeve, PhD, P.Eng., professor and chair, chemical engineering department, University of Toronto (U of T), said the GEA will, regrettably, further centralize and politicize the

most important aspects of the provincial electricity sector. The act, he said, takes away responsibility from local municipalities, planning review boards, environmental review processes and an energy board, and creates a new bureaucracy. “There’s no question the system is overly complex, overly bureaucratic and overly difficult,” he said. “One friend of mine describes Ontario’s electricity policy as a stack of pancakes. What we’re doing is putting another pancake on top. We haven’t dealt with the underlying elements of the design of the stack.”

Reeve said he believes we need to be paying more for electricity, recognizing that it is an extremely valuable resource that impinges on the environment in all kinds of ways for which we’re not paying. The GEA is going to cost us more in transmission and back-up generation because when the wind doesn’t blow, we still need to provide electricity. Another factor in the policy realm is sovereign risk, which is the risk the government will change its mind and an investor will be out



From left, Deborah Goodings, professor, University of Maryland; Donald Wallace, PhD, OCEPP executive director; and Bryan Karney, PhD, P.Eng., professor, U of T.

of luck. By radically changing policies over many decades, he says, Ontario is increasing sovereign risk and investors have a right to be concerned about this.

ENGINEERING FOR A CHANGING CLIMATE

In a presentation on climate change policy, Deborah Goodings, professor of civil and environmental engineering, University of Maryland, explained some of the ways climate change is taking hold. By 2100, she said, some expected changes include a 2 C to 4 C rise in global temperatures, a rise in sea levels of 20 to 30 cm, subsiding coasts, higher

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storm surges and erosion, changes in precipitation, and more frequent extreme storms. “By 2050, there may be a loss of as many as two-thirds of our polar bears,” Goodings added.

The policy changes she sees in the United States in response to climate change include presidential appointments to and investments in several departments, including the Department of Energy, the Department of Transportation and the Environmental Protection Agency.

Bryan Karney, PhD, P.Eng., professor of civil engineering, U of T, told attendees that weather variations are serious challenges for engineers, and understanding them is crucial for design, operation, adaptation, monitoring and redevelopment. He said the challenge for planning and design is severe, demanding and nearly overwhelming, even in a stable climate.

“Infrastructure is highly dependent on climate, which means we have to design, monitor and evolve systems better than ever,” Karney said. Among the solutions he offered are to base new construction on a changing climate, to determine which existing designs are no longer appropriate, to avoid premature replacement, and to find hedges against the changes. He said engineers also need to provide anticipatory measures, such as greater flood control and larger water resources, but cautioned that these come at a social and economic cost.

ENGAGE ALL AND LISTEN

Hon. Carolyn Bennett, MP, St. Paul’s, began her lunchtime keynote with a quote from Peter C. New-



Lunchtime keynote speaker Hon. Carolyn Bennett, MP, St. Paul’s.

man, who said, “Politics in Canada has always been the art of making the necessary possible,” but added that deciding what’s necessary is political.

Bennett said knowledgeable stakeholders plus committed (listening) politicians add up to better public policy, and encouraged attendees to talk to all the people who know something. “You can’t do the job without talking to the people who are going to use what you’re engineering. Engage all, ask what’s wrong, and listen. Do not think you know what they’re going to say anyway,” she said.

On a final note, Bennett said, “If you’re going to bitch, bitch effectively.”

ENGINEERS AS KNOWLEDGE BROKERS

First up in a panel discussion of engineering education and research, Stephen Hill, assistant professor, environmental and resource studies, Trent University, told attendees Ontario doesn’t need better engineers; it needs different engineers and the profession is not training the professors it needs to get there. He said he believes 12 per cent of an engineer’s education devoted to complementary studies, the amount mandated for accreditation of a program by the Canadian Engineering Accreditation Board, is not enough. “We need to remove the silos within universities,” Hill said.

Gail Krantzberg, PhD, professor and director, Dofasco Centre for Engineering and Public Policy, McMaster University, echoed Hill’s remarks, adding that engineers almost never get adequately trained in public policy. At the Dofasco Centre, she said, engineers are “trained to be knowledge brokers.” She said there are many areas engineers should be engaged in, including land use, transportation, green building, emerging chemicals and information technology.

Karney, who also spoke earlier in the day, said that in university, students are aware only of their own needs—their friends, family and the people around them—but that they need to take into account different perspectives and think collectively.

He mentioned that at U of T, students of public policy are challenged to start thinking about other groups because “only a collective answer will come up with any reasonable solution.”

WATER SAFETY SINCE WALKERTON

Former PEO president Robert Goodings, P.Eng., led a panel discussion on water safety in Ontario. He pointed out that the inquiry into the Walkerton tainted water tragedy directly led the public, engineers and the water safety industry to develop legislation for better control of water (*Safe Drinking Water Act*, 2002). Before Walkerton there were only guidelines to protect the public. He also suggested that one of the ways engineers can take a lead in public policy issues is to better understand the subject they’re talking about.

Andrea Bradford, P.Eng., associate professor of engineering, University of Guelph, said there is more to public policy than meets the eye and offered steps to consider when tackling issues:

1. Pick your mountain and try to get as good a view of the summit as possible;
2. Pick your team;
3. Take it step by step;
4. Explore before committing to a route; and
5. Communicate, communicate, communicate.



John Stager, chief drinking water inspector, Ontario Ministry of the Environment.

She said: “What’s simple to me may not be to you...we need to be able to explain technical issues and learn what the decision-maker needs to know without extraneous detail, including the uncertainty of the position. Engineers have much to contribute to public policy, but it’s difficult for policy-makers to appreciate technical complexity and equally difficult for engineers to appreciate decision makers’ challenges.”

Rod Holme, P.Eng., a member of the Ontario Drinking Water Advisory Council, said engineers have to come to the table with constructive solutions, but not “lapse into logic.” He said engineers don’t have to like everything that happens in public policy, but they do need to understand it.

John Stager, chief drinking water inspector, Ontario Ministry of the Environment, spoke about how the protection and provision of Ontario’s drinking water has become a “different world from a policy perspective” since Walkerton. In particular, he said, there is direct government oversight, a system of checks and balances, a quality management orientation (municipal licensing and accreditation for drinking water systems) and watershed-based source

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protection. He praised engineers for playing a vital role in achieving this level of protection for the province.

COMMUNICATE, BUILD RELATIONSHIPS FOR INFLUENCE

On how engineers can gain better access to the corridors of power, Tony Dean, fellow in residence, U of T School of Public Policy and Governance, told attendees the process and environment for making policy has changed dramatically over the last 10 years. For example, policy is getting more complex (water, climate change) and requires unique skills, and politicians are more responsive to citizens' and stakeholders' needs. He said government is realizing it can't do anything really well alone and so the channels are open. Whereas policy used to be more local or provincial, now governments operate more as a corporation than as individual departments, and working across ministries isn't good enough anymore. Policy is now made on a JIT (just-in-time) basis based on current events. With just days or months to turn policy around, "we need help," Dean said.

As far as gaining access goes, he said it's all about building relationships: "Call chief policy advisors, talk about what you can bring to the table." Also, Dean said: "Good ideas don't have a time limit. Keep your idea fresh and wait for the next round of budget consultations. Governments are always looking for good ideas, so keep going back."

Matthew Mendelsohn, director, Mowat Centre for Policy Innovation, U of T, said he knows that to outsiders, government looks like an impenetrable black box. But, in fact, almost every public servant is looking for ideas and they are genuinely interested in serving the public.

He said the keys for making contact include:

1. Building relationships—if you build a relationship simply to provide information, when the time comes to raise an issue, you've already established trust;
2. Persevere—not succeeding the first time doesn't mean it won't work the second and don't think just about the party in power; and
3. Provide knowledge—it equals power and the person who knows more usually wins. Know your topic as well as you can, know the players and make sure you're talking to the right person.

Ken Knox, president and CEO, Innovation Institute of Ontario, said engineers have great access and told them to, like plastic, become embedded. "With \$12 billion set aside for infrastructure, what piece of that won't be stamped by an engineer? What influence don't you think you have?" he asked. His advice: work more closely with kids, encourage engineering interns and take a long-term view. Influence, he said, is not taking a minister to a hockey game.

The long day concluded with presentations by 2009 Student Essay Competition winners Sommer Abdel-fattah and Victoria Sharpe, who spoke on privacy and security of hospital records and transforming brown-field sites into mustard biofuel production facilities, respectively.



PEO REGISTRATION PRACTICES MEET FARPA STANDARDS

By Jennifer Coombes

PEO'S REGISTRATION PRACTICES have been deemed to be fair, transparent, objective and impartial and, overall, to meet the high standards set by the Office of the Fairness Commissioner of Ontario.

In an independent audit of its compliance with the *Fair Access to Regulated Professions Act* (FARPA), PEO's practices were evaluated against several criteria, including information to applicants; timely decisions and responses; internal review or appeal; and documentation and assessment of qualifications.

The audit, conducted by Deloitte, covered the period from July 16, 2007 to July 15, 2008.

In a press release issued to announce the audit result, CEO/Registrar Kim Allen, P.Eng., said: "These findings are a testament to the continuous efforts of our team to ensure a smooth application process for all our applicants."

A full report is available by clicking Publications, then Reports on www.peo.on.ca.

BERGERON re-elected OSPE chair

By Jennifer Coombes



OSPE Chair Annette Bergeron, P.Eng.

Goeff Smith, LLB, president and CEO of EllisDon Inc., kicked off the Ontario Society of Professional Engineers' (OSPE) annual general meeting at Sunnyside Estates May 5 with an entertaining talk. Although not an engineer himself, Smith has clearly come to know one or two during his more than 25-year career with EllisDon, an international construction services company.

Apparently, his father Don Smith, founder of the company, had as well. Smith told a story of the elder Smith coming home from work muttering "goddamn engineers." He said he was 10 years old before he knew that phrase consisted of two words.

Smith told his audience that the engineering and construction sides that used to be so separate are now coming together. However, he stopped short of offering predictions on where the construction industry is headed, saying he doesn't have any more idea of where it's going than his cat does.

One thing he said he does know is that if you see a change, you have to adapt to it. "You have to be fast, fluid and flexible," Smith said.

Following a welcome message from outgoing Chair Michael Monette, P.Eng., and an introduction of the 2008-2009 board members—Steven Rose, P.Eng. (vice chair); John Schindler, P.Eng. (treasurer); Annette Bergeron, P.Eng. (secretary); Daniel Young, P.Eng. (past chair); Valerie Davidson, P.Eng.; William Goodings, P.Eng.; Robert Hughes, P.Eng.; James Maltby, P.Eng.; Nadine Miller, P.Eng.; Derek Pinder, P.Eng.; Edward Poon, P.Eng.; and Alourdes Sully, P.Eng.—a number of guests offered their greetings.

PEO President Catherine Karakatsanis, P.Eng., congratulated OSPE on its success in 2008 and offered best wishes for another productive year. She said PEO "is committed to a continuing co-operative and collaborative relationship with OSPE, which will strengthen the value of the profession and the relevance of the P.Eng. licence."

Karakatsanis also brought the group up to speed on several PEO events and initiatives, including its then upcoming AGM, the new headquarters, and the Ontario Centre for Engineering and Public Policy.

Mark Bourgeois, director, communications and public affairs, Engineers Canada, outlined two projects of interest to OSPE: the engineering and technology labour market study

and the national ad campaign to raise awareness of the engineering profession. Part of the campaign, he said, focuses on getting the word out to businesses that there is a return on investment by hiring licensed engineers.

Etienne Couture, ing., of Réseau des ingénieurs du Québec, said he's proud of what his group is doing for advocacy in the province and is learning as much as he can from OSPE.

He spoke about the Réseau's study of Quebec's energy development. Couture expects the next challenge to involve energy supply and availability, since energy demand is continuing to expand. He said the situation isn't yet as dramatic as that of China, a country that is experiencing serious difficulties in meeting demand. He cautioned, however, that the situation could become more serious as the economy rebounds and puts more pressure on the energy supply.

Couture also reported briefly on the Ordre des ingénieurs du Québec's new bylaw for continuing professional development (PD) for professional engineers. Under the bylaw, Quebec's professional engineers must complete at least 30 hours of PD over two years, a requirement that will be enforced towards the end of 2009.

Following the standard reports of the CEO, the nominations committee, treasurer, and audit and investments committee, the newly elected directors of OSPE were announced. They are Robert Hughes, Alourdes Sully (treasurer) and Matthew Xie, P.Eng.

At the meeting, a motion was carried to combine bylaw 4.2.1 parts (b) and (c), which define the criteria for "associate resident" and "associate-non-resident," into bylaw 4.2 (b), which defines the criteria for "associate member."

New President and Chair Annette Bergeron took over her duties from Past Chair Monette. Currently a lecturer at Queen's University's school of business, Bergeron is a veteran PEO and OSPE volunteer and has been a member of OSPE's board since 2002. She was previously elected chair in 2004 and, in 2006, was re-elected to the board and appointed as a member of OSPE's Executive Committee.

Bergeron noted that OSPE ended 2008 in the black with an excess of revenue over expenses of almost \$68,000. She was also pleased to report an increase in the public perception of engineers, and the highlights of OSPE's year, which included closer ties with Engineers Canada, Consulting Engineers of Ontario and, of course, PEO. She added that Energy and Infrastructure Minister George Smitherman is "very supportive of OSPE's role in infrastructure development."

CONSULTING ENGINEERS SUPPORT INFRASTRUCTURE INVESTMENT EFFORTS

By Michael Mastromatteo

The theme for the 2009 annual meeting of Consulting Engineers of Ontario (CEO), held June 1 to 2 at the Fairmont Château Laurier hotel in Ottawa, was policies and priorities for prosperity.

Host of the event, at which delegates discussed the contributions of consulting engineers to economic viability and quality of life in Ontario and across the country, was Bob Plamondon, best known as a consultant and policy analyst on national political issues. The delegates concluded that Ontario's consulting engineers can capitalize on infrastructure programs to demonstrate their influence on Ontario's economic prosperity and competitiveness.

This topic was similar in some ways to that of the May 18 to 21 National Engineering Summit in Montreal (see p. 40), which looked at ways the engineering profession can contribute to economic competitiveness and quality of life in changing political, social and demographic environments.

During the annual meeting portion of CEO's two-day event, David Amm, P.Eng., vice president, Hatch Mott MacDonald, was elected to a one-year term as

chair of the CEO board, succeeding Anita Smith, P.Eng., who remains on the board as past-chair. Other executive officers include Shawn Gibbons, P.Eng. (vice-chair); Vic Anderson, P.Eng. (treasurer); and Jim McEwen, P.Eng. (secretary).

CEO directors returning from the previous year include Gerry Egberts, P.Eng.; Doug Jagger, P.Eng.; Peter Needra, P.Eng.; and Michael Stocks, P.Eng.

The CEO annual meeting also included presentation of achievement awards, including the annual Willis Chipman prize, to recognize outstanding consulting engineering work. See the awards section of *Engineering Dimensions'* September/October issue for an overview of this year's CEO award winners.

CEO represents the business interests of 250 consulting engineering firms across Ontario.



P.ENG.S CONTINUE TO SEEK INPUT INTO GREEN ENERGY ACT

By Michael Mastromatteo

THE GOVERNMENT'S green energy legislation continues to fire the imaginations of Ontario's engineers.

The *Green Energy Act*, formerly known as Bill 150, received royal assent on May 14.

Ontario's Ministry of Energy and Infrastructure is now working with various stakeholders to develop the regulations and other tools needed to fully implement the legislation.

It's expected the regulation preparation phase will present a key opportunity for professional engineering associations to influence the act and, in turn, enhance the engineering-public policy link, so coveted by PEO, the Ontario Society of Professional Engineers (OSPE) and other engineering associations.

The *Green Energy Act* has become a hot topic within the wider engineering community, especially as an opportunity for engineers to become involved in government liaison activity, and to provide input in the development of technically sound energy policy.

PEO Manager of Policy Jordan Max will monitor the development of regulations to the *Green Energy Act*. The notice of proposal for act regulations runs from June 9 to July 24. "The act did not create any regulatory issues for engineers," Max says, "only additional work—although an engineer will have to develop energy management and conservation plans for public facilities." Max adds that the regulations serve primarily to further define powers already stipulated in the act.

The act comes into force upon proclamation by the Ontario lieutenant-governor, which is expected before next spring.

Introduced in February 2009, the *Green Energy Act* is designed to allow growth in clean, renewable energy sources, such as wind,

solar, hydro and biomass. The legislation also aims to promote savings through conservation and better-managed household energy consumption.

“Our ambition is to increase the standard of living and quality of life for all Ontario’s families,” says Energy and Infrastructure Minister George Smitherman. “That is best achieved by creating the conditions for green economic growth.”

PEO chapters, ranging from Algoma in the northwest to Mississauga in the south, are taking up the green energy challenge with submissions and town hall forums.

The act was also the focus of a panel discussion at the Ontario Centre for Engineering and Public Policy’s (OCEPP) inaugural conference May 8 in Toronto.

At a presentation on the bill’s overall significance for Ontario, Colin Andersen, CEO, Ontario Power Authority (OPA), said the act presents a significant opportunity for professional engineers.

“Engineers will play a critical role in the design, construction and operation of both projects, and systems associated with this new [energy] infrastructure,” Andersen said.

Despite these challenges, however, Andersen suggested the fundamental engineering role remains unchanged. “Problem solving and the drive to maintain project integrity will remain at the core of what you do,” he said.

OSPE has also weighed in on the new energy legislation. It has described the initiative as “arguably the most significant piece of legislation facing professional engineers over the past 25 years.”

The engineering advocacy group organized an April 28 forum, in conjunction with McMaster University’s Dofasco Centre for Engineering and Public Policy, dedicated to the *Green Energy Act*. The forum featured Amir

Shalaby, P.Eng., vice-president, power system planning, OPA, and Bryan Karney, PhD, P.Eng., engineering professor at the University of Toronto.

The *Green Energy Act* has also led to increased activity at the PEO chapter level. Galal Abdelmessih, P.Eng., chair of the Mississauga Chapter’s Government Liaison Program, reports the chapter is planning a September 2009 town hall meeting to discuss the new legislation.

As well, PEO’s Algoma Chapter sent engineer representatives to an April 14 *Green Energy Act* review committee hearing in Sault Ste. Marie. Led by Jeanette Biemann, P.Eng., of EPOH Inc. in Sault Ste. Marie, the Algoma Chapter offered a 10-point analysis of the bill for policy consideration.

Recommendations focused on energy generation and distribution enhancements, along with discussion of streamlined regulation as steps necessary to improve energy use.

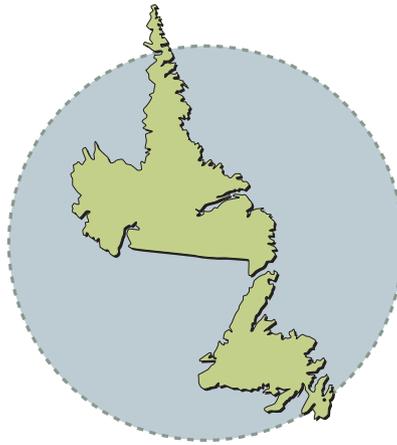
The chapter also highlighted the sometimes overlooked role of professional engineers in establishing energy priorities. “There are a number of professional engineers currently working in Ontario’s energy industry,” the Algoma Chapter said in its paper. “These local experts are valuable resources and should become part of the project proposal review committees and implementation teams. They can advise on local site conditions and provide contacts for qualified local consultants and vendors that should be considered to bid on the project packages for the construction phase.”

In a June 15 interview, Biemann said the Algoma group was keen to emphasize the use of “local engineering” in the implementation of different aspects of the *Green Energy Act*.

“The members involved were generally impressed with the act and were glad to have been able to participate,” Biemann added. “It was exciting to do the presentation and the questions from the committee members showed genuine interest in our input. Also, after the presentation, we received positive feedback from some of the committee members thanking us for taking the time to get involved and share our opinions. I’m not sure if any of our discussion points had an impact on the final act revisions, but our chapter intends on following up on this with our local MPP later this year.”

NEWFOUNDLAND AND LABRADOR REGULATOR READY FOR NEW ENGINEERING ACT

By Michael Mastromatteo



Newfoundland and Labrador's engineering regulator, Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL), is now operating under a new engineering act.

The *Engineers and Geoscientists Act 2008*, which came into force on July 1, is the product of a 12-year review of self-regulated professions by the government of Newfoundland and Labrador.

Key elements of the new act involve the inclusion of members of the public for the first time in the association's complaints and discipline processes, reduction of the size of the governing body, and a name change from council to board of directors.

PEGNL Executive Director Steve McLean, PEng., told *Engineering Dimensions* May 28 that the overall intent of the act change is to bring more consistency to the discipline practices of all self-regulated professions in Newfoundland and Labrador.

"It is my understanding the requirement for lay representatives is intended to ensure the public that our discipline processes are fair, equitable and in the best interest of the public," McLean says. "This is really a flow-through of the involvement of lay representatives on the board of directors."

McLean discounts suggestions that the presence of members of the public in key regulatory processes conflicts with the principle of self-regulation and discipline by one's professional peers.

"We don't see it as a conflict, as the majority of the Discipline Committee will be engineers or geoscientists," he says.

McLean says the PEGNL council—or board of directors as it will be known under the new act—had few serious concerns about the terms of the new engineering act.

He also says the Newfoundland and Labrador government was amenable to most of the association's recommendations during the review process. "However, one issue we were disappointed with was the absence of a reference to an admissions board in

the new act," he says. "Generally, the admissions issue has been relegated to the regulations. Our old act had the authority of the Board of Examiners set out therein. We feel the reference in the old act gave more authority to the Board of Examiners."

The question of advocacy versus regulation also arose during the act review, leading to some stepped-up negotiation between the association and the province. McLean says the government initially called for the creation of separate regulatory and advocacy organizations, as is the case in Ontario with PEO and the Ontario Society of Professional Engineers.

"However, we were able to convince the government that we don't really need an advocate, certainly not for members, so they eventually relented," McLean says.

The executive director says most of PEGNL's 2890 members are onside with the new act and are convinced it will bring more transparency to engineering self-regulation in the province.

The new engineering act had its origins in the Newfoundland and Labrador government's 1996 white paper *New Proposals for Occupational Regulations*, in which it noted that disciplinary procedures for the province's self-governing occupations contained at least five different processes.

"Many procedures are stated generally and specific steps are not clearly outlined," the white paper notes. "These inconsistencies are a problem for members of the public and for the practitioners of an occupation. For members of the public, there is no single disciplinary process and no one source outlining the process to be followed. For practitioners, there has to be a way to control members who are not adhering to appropriate ethical standards and consequently exposing all members to significant liability. For both purposes, an effective disciplinary process is essential if self-government is to operate smoothly and efficiently."

TECHNOLOGY seen as driver to climate change adaptation

By Michael Mastromatteo

ENGINEERING WILL BE CENTRAL to enabling Canadians to continue to enjoy a good quality of life in the face of climate change, so say organizers of the second annual Climate Change Technology Conference, held May 12 to 15 at McMaster University in Hamilton.

Hosted by the Engineering Institute of Canada and its affiliated organizations, the conference was attended by about 180 engineers and global warming experts from Canada and abroad, who debated strategies to cope with climate change and develop carbon-free energy solutions. It was organized around themes of greenhouse gas mitigation, adaptation, infrastructure, alternative energy, education, a regulatory framework for climate change engineering, and the development of “smart technologies” for environmental sustainability.

Marc Rosen, PhD, P.Eng., president, Engineering Institute of Canada, and professor of engineering and applied science, University of Ontario Institute of Technology, says the conference emphasized the extensive work needed on technologies and processes to mitigate climate change impacts, particularly in the area of energy supply and use. Much of this, he says, speaks directly to engineers.

“Engineering practitioners will have to focus on adaptation technologies and systems,” he says, “to allow Canadian society, as well as other countries, to maintain a good quality of life.”

David Jackson, PhD, adjunct professor of engineering physics, McMaster University, and chair of the conference organizing committee, says the conference sessions backed up his experience on the Scientific Review Committee of the United Nations Intergovernmental Panel on Climate Change (IPCC).

“The conference confirmed my earlier impression from the IPCC that long-term solutions for climate change will touch almost every aspect of our lives so much that we may well have a very different society a few decades from now,” he says. “Engineers will be critical in managing this transition by implementing more climate-friendly technologies.”

But in his presentation on the professional implications of climate change, keynote speaker John Boyd, P.Eng., past president, Golder Associates, and president, International Federation of Consulting Engineers, raised the question of engineers being “ethically equipped” to deal with such an urgent global issue.

“The pieces seem to be in place, but in practice I think that reality is a bit short of the necessary zeal,” Boyd said. “Many engineers are not registered and therefore not subject to disciplinary hearings. Next, what constitutes an environmental infraction in regard to engineering?”

Boyd said engineers need more clarity in evaluating the consequences of their actions on the climate change front, adding that P.Engs are “largely absent on the world stage” in discussing societal issues of climate change.

Rosen says a highlight of the conference for him was that “after hearing much pessimism regarding how Canada has reacted to climate change,” he saw through the presentations “incredibly high-quality research and development being carried out by numerous, incredibly intelligent and innovative individuals to develop engineering



David Lapp, P.Eng., manager, professional practice, Engineers Canada, introduced a session on water resources at the second Climate Change Technology Conference, May 12 to 15 at McMaster University in Hamilton.

solutions to climate change. That gave me a sense of optimism and hope for the future.”

For Jackson, a conference highlight was the keynote address from former governor general and Manitoba premier Ed Schreyer, who outlined some of the problems for engineers and other professionals in getting public commitment and political action on climate change issues.

Other keynote speakers included David Sanborn Scott, PhD, P.Eng., vice-president, International Association for Hydrogen Energy; and Ontario Environment Minister John Gerretsen.

Program offers NEW VIEW OF ENGINEERING LEADERSHIP

By Michael Mastromatteo



Leaders of Tomorrow student leadership development coordinator Annie Simpson leads a discussion group as part of the program's summer component.

A leadership program instituted at the University of Toronto (U of T) is adding new meaning to professional ethics and the development of socially committed engineering practitioners.

The university's Leaders of Tomorrow (LOT) program, established by the department of chemical engineering and applied chemistry in 2002 and now encompassing the entire engineering faculty, is aimed at giving students the knowledge, skills and experience to effect positive change in society as engineers and as citizens.

The program, which weaves leadership training and development opportunities throughout a student's entire undergraduate experience, is the outgrowth of one educator's view of engineering education.

Doug Reeve, PhD, P.Eng., chair of the chemical engineering and applied chemistry department, describes LOT as a key component in "a life-long foundation for transformational leaders and outstanding citizens."

Reeve established the basics of the program within the department seven years ago, and by May 2006 he won approval for LOT to expand to all departments within the faculty of engineering and applied science.

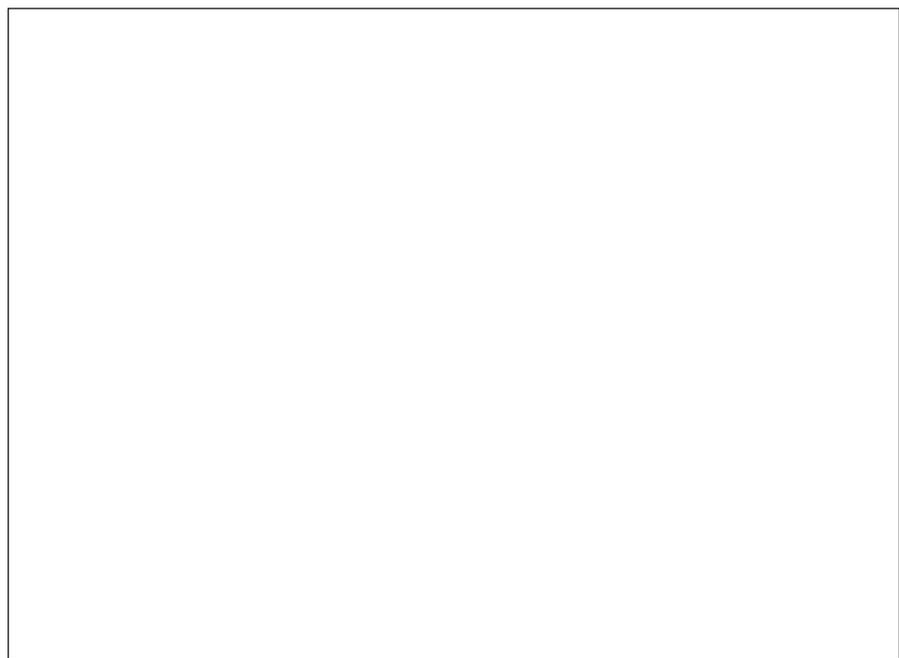
Reeve and chemical engineering professor Greg Evans, PhD, P.Eng., are co-leaders of LOT and are now assisted by staff, faculty representatives and students.

Participation in the program is voluntary, but students entering their first year of engineering undergraduate studies are especially encouraged to become involved.

The LOT program primarily comprises lectures, projects and exercises to help students understand the idea of leadership from a new perspective. Leadership concepts are said to "infuse" the undergraduate curriculum, so that participants don't lose sight of the program's essentials and will be encouraged to show leadership prior to and after graduation.

A basic tenet of the program is that leadership is a skill that can be taught, and that leadership opportunities will enhance not only a practitioner's career prospects but also his or her contributions to society.

The program has three main objectives. First, it provides structured activities to enhance an individual's leadership development. Second, LOT encourages engineering graduates to make greater contributions in their work place, their community and to society. Finally, the program aims to improve the connection between engineering and



public policy, which enables participants to contribute to more technologically sound public policies.

EMOTIONAL INTELLIGENCE

In keeping with the leadership dimension, LOT involves some non-technical learning opportunities. Program topics include such areas as personal, group and societal leadership; personality type indicators; emotional intelligence; conflict resolution; facilitation skills; and even “dress for success” tutorials.

Participants are also encouraged to get involved in organizing debates, presentations and guest lectures, many of which enhance a student’s public speaking skills and poise.

Although there is no academic credit attached to the program, LOT awards a co-curricular certificate upon completion of specific leadership activities. But it’s in the personal development area that most students find LOT especially valuable.

Annie Simpson, LOT’s student leadership development coordinator, describes the program as more than a glorified engineering ethics course. She says LOT enhances and expands on the themes delivered to senior undergraduates through the university’s APS 501 course (leadership and leading for groups and organizations), which includes such topics as self-leadership, setting strategic direction and implementing change in an enterprise.

“I think APS 501 advances the objectives of LOT by offering intentional, meaningful leadership education opportunities,” Simpson told *Engineering Dimensions*. “Through the course, students learn a number of thinking frameworks, practise leadership skills, connect with leaders in community and industry, and engage in significant self-reflection.”

David Colcleugh, former president of the DuPont Company, both in Canada and in Asia-Pacific, is lead instructor for the course, and is also involved as an instructor with LOT’s

summer program, which involves leadership and team-building lectures for students working on or near the university campus for the summer months. Colcleugh recently kicked off the 2009 summer program with a lecture on “transformational change.”

Students involved with LOT reflect a new attitude about doing more with an engineering education in the social or community realm.

BLEND OF SKILL AND EXPERIENCE

Sabrina Tang, a third-year U of T industrial engineering student, says the program presents a good blend of skills and experiences.

“LOT has changed my understanding of leadership from thinking of it as a natural talent to a set of skills,” Tang says. “It gave me the opportunity to immediately put new skills into practice and to discuss leadership experiences with other students. It has also been crucial to my development, in realizing the importance of reflection and self-awareness in everything that I do.”

David Schatcer, a master’s degree student in mechanical and industrial engineering, suggests LOT also helps students discern a career direction. “Instead of simply following the career path that appears most profitable or easily attainable, I now seek a career that will allow me to make a positive impact on society,” Schatcer says. “In this harsh economic climate, it’s often difficult to find gainful employment, which also aligns with our ideals. This is especially pertinent in engineering, a profession with the power to do so much harm and so much good.”

For third-year chemical engineering student Sami Khan, LOT has been instrumental in fostering presentation, public speaking and other so-called soft skills. “Through workshops on conflict resolution, group facilitation, self-leadership and others included in the certificate program, I have improved my performance as a team player,” Khan

told *Engineering Dimensions*. “Moreover, I have learned skills on cross-cultural communication and inclusivity, thus making me flexible to work with people from diverse backgrounds. These skills, developed by LOT, form part of the transformational change in an engineering student towards becoming a professional in future.”

Program leaders are gratified with the growth of the program. During the fall 2008 semester, LOT offered 72 events and training opportunities for nearly 4000 student contacts throughout the faculty, representing a sizable increase over the previous year, which saw 58 events and 1556 student contacts.

Not only are more engineering undergraduates tuning in to the leadership program, but some participants intend to take leadership to the next level.

Paul Kishimoto, an engineering science graduate now enrolled in a master’s degree program, is working with a student editorial board to produce an online engineering leadership journal (lot.utoronto.ca/wiki/Publication).

As well, LOT participant Judith Lau has joined forces with other students in developing Citizen Engineer (citizenengineer.skule.ca), an informal organization dedicated to emphasizing the engineering-public policy link.

Although Citizen Engineer has a different emphasis than LOT, Lau sees a strong connection between LOT and an engineering graduate’s public policy interest.

“The activities LOT holds are well advertised, by both print material and through faculty members,” Lau says. “So the students are naturally thinking more about the community and about leadership, simply due to exposure. I suppose that exposure can lead to curiosity, exploration and knowledge, which is why students are becoming aware of needing to do more community-minded and leadership activities.”

CERTIFICATE PRESENTATION CEREMONIES HEATING UP

May was a busy month for PEO chapters and their licence certificate presentation ceremonies. A group of newly licensed engineers (below) from the "Quad Chapter" (Etobicoke, Toronto-Humber, West Toronto and Kingsway chapters) show off their certificates.



Above: A new engineer accepts congratulations from (left to right), Scarborough Chapter member and PEO Councillor Santosh Gupta, PhD, P.Eng.; OSPE Executive Director Angela Shama, P.Eng.; guest speaker Albert Sweetnam, P.Eng.; and Scarborough Chapter Chair Raju Chander, P.Eng.

US ENGINEERS SEND ENERGY MESSAGE TO OBAMA

By Jennifer Coombes



ASME (formerly the American Society of Mechanical Engineers) has sent a proclamation outlining what it feels are critical energy goals to lawmakers on Capitol Hill. It hopes the Obama administration will consider the points made in the proclamation as national energy legislation is drafted over the next several years.

All told, 21 engineering societies representing over one million engineers, including the Institute of Electrical and Electronics Engineers, have endorsed ASME's National Energy Policy Goals Proclamation, which emphasizes research and development in new technologies as part of a comprehensive strategy to protect US economic and national security.

According to Dan Deckler, PE, one of the authors of the proclamation, the idea grew out of frustration over the lack of progress engineers saw in developing both short- and long-term coherent energy strategies. "If this country's economy is to continue to grow, we need to develop a plan that will more efficiently use the fossil fuels we have and, at the same time, develop economical and environmentally friendly alternatives.

Such a plan will primarily be the responsibility of engineers, who recognize the energy challenge this country faces," he says.

The proclamation specifically calls for:

- a balanced national energy portfolio that combines traditional energy sources with renewable energy, such as wind, geothermal, solar and biomass, to support a reliable, abundant and economically viable energy supply;
- policy objectives that encourage energy conservation, reward energy efficiency, and maximize the use of electric power, particularly in the transportation sector; and
- a robust and modernized electric transmission grid.

Continues Deckler: "In my opinion, engineers are hoping that by speaking through their professional organizations and then having these organizations come together and speak with one voice, that congress and the administrations will begin to understand the importance of this issue and begin to address it in a meaningful way."

Full text of the proclamation is available at: files.asme.org/asmeorg/NewsPublicPolicy/GovRelations/PositionStatements/17931.pdf.