

## Court confirms PEO's exclusive jurisdiction

BY MICHAEL MASTROMATTEO

PEO's long battle to clarify its exclusive authority to regulate engineers in areas of building code compliance finally paid dividends May 17 with the Ontario Superior Court ruling in PEO's favour on its legal challenge of certain of the housing ministry's *Ontario Building Code* (OBC) reforms.

In a clear affirmation of PEO's right to regulate the qualifications and practice of members involved in the building design area, the court ruled that certain articles of the building code are invalid. It also held that certain provisions of the *Building Code Act* and the building code conflict with the exclusive regulatory juris-

discipline and regulate its members, and were not authorized by the *Ontario Building Code Act, 1992*.

The court ruled in particular that Article 2.17 of the OBC "conflicts with the exclusive regulatory jurisdiction of PEO and does not apply to any holder of any licence or certificate issued under the *Professional Engineers Act*." The court also stated that the remedy should equally be available to members of the Ontario Association of Architects, which was an intervenor in the case.

The court's decision was effective immediately it was issued on May 17, making BCINs unnecessary for professional engineers when submitting

drawings for building permits and saying that PEO seals are sufficient.

However, it is unlikely that every building department has yet made the necessary changes to bring itself into compliance with the law as declared. As of mid-June, PEO was aware the building departments in Barrie, Kitchener, Milton, Mississauga, Pickering and Toronto were complying with the law and were not requiring BCINs from professional engineers.

To inform other building departments of its expectation that they would comply with the court's ruling immediately, on June 16 PEO placed an ad in the Ontario edition of the *Toronto Star*. PEO asks that professional engineers or Certificate of Authorization holders who experience any difficulties arising from not using a BCIN report it promptly to its BCIN hotline at [BCIN@peo.on.ca](mailto:BCIN@peo.on.ca).

Toronto attorney Richard Steinecke, who argued PEO's case, told *Engineering Dimensions* the decision could impact other regulatory bodies.

"This is a very significant decision for PEO and for professional engineers," Steinecke said. "It reaffirms that the building code creates a design constraint for professional engineers, not a competing regulatory body. Other professions will

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diction of PEO and do not apply to any holder of any licence or certificate issued under the *Professional Engineers Act*.

The amendments to the building code that came into effect on January 1, 2006 required building design practitioners to participate in a housing ministry certification scheme. Practitioners who qualified were assigned a Building Code Identification Number (BCIN), which was required to engage in building-related design and to conduct general review of construction activities.

In outlining its case to the court on October 26 and 27, 2006, PEO argued that the building code amendments duplicated, contradicted and otherwise interfered with its statutory role to license,

### The court's declaration

- Article 2.3.1.1 of the building code is not authorized by s. 34(1)(10) of the *Building Code Act* and is invalid to the extent that it purports to allocate responsibility for designs between professional engineers and architects and therefore does not apply to PEO and its members and certificate holders;
- Article 2.3.1.1(4) of the building code is not authorized by s. 34 and is invalid and therefore does not apply to PEO and its members and certificate holders; Clause 1.1(1)(c), subsection 1.1(2), clause 8(2)(c) and subsections 15.11(5) to (7) of the *Building Code Act* conflict with the exclusive regulatory jurisdiction of PEO and do not apply to any holder of any licence or certificate issued under the *Professional Engineers Act*; and
- Article 2.17 of the building code conflicts with the exclusive regulatory jurisdiction of PEO and does not apply to any holder of any licence or certificate issued under the *Professional Engineers Act*.

look to PEO's leadership in this area and will use this court decision as a precedent in their own dealings with government."

PEO has been informed that the province will not appeal the decision, and advised that the housing ministry intends to work with stakeholders, including engineers, architects and building officials, to monitor the implications of the court's decision on the administration and enforcement of the *Building Code Act, 1992* and the building code. The government's statement on the decision is posted on the ministry's website at [www.obc.mah.gov.on.ca/Page1400.aspx](http://www.obc.mah.gov.on.ca/Page1400.aspx).

PEO Past President Pat Quinn, P.Eng., called the court ruling "a momentous event in our profession's history and a victory for all self-regulating professions in our province. This outcome clearly shows how valid our concerns were and how justified our efforts have been."

Bernard Ennis, P.Eng., PEO manager, practice and standards, was the applicant for

PEO has been informed that the province will not appeal the decision, and advised that the housing ministry intends to work with stakeholders, including engineers.

the judicial review. Speaking recently at the Consulting Engineers of Ontario annual meeting in Waterloo, Ennis said: "The justices decided that the Ministry of Municipal Affairs and Housing was not authorized by the *Ontario Building Code Act* to make the specific regulations that the court ruled against. In making this decision, the court found that the building code designer registration regime duplicated the purpose of the licensing regime in the *Professional Engineers Act*. Specifically, the court found that professional engineers are already subject to regulations under the PE Act covering their qualifications to be designers," includ-

ing the requirements for insurance, and "could not be subject to another set of regulations, which duplicate those requirements."

Ennis added that PEO's Building Design Specialist (BDS) official mark will remain in use. "This is a prime example of PEO's exercise of its regulatory jurisdiction," he said.

To read the court's full Reasons for Judgment and the document *Questions and Answers on PEO's Building Code Challenge Victory*, visit [www.peo.on.ca/registration/Building\\_Regulation\\_Registration\\_Program.htm](http://www.peo.on.ca/registration/Building_Regulation_Registration_Program.htm).

# Annual meeting wrap-up: education, political involvement, service to the profession

BY MICHAEL MASTROMATTEO

Increased activity on the public policy front, more effective governance of the profession and a reconsideration of the basics of engineering education were among the main themes of PEO's 2007 annual general meeting held April 27 to 28 in Toronto.

Undoubtedly, a review of the basics of engineering education is a key priority for new PEO President Walter Bilanski, PhD, P.Eng., who, for the fourth time since 1971, took charge of Ontario's 70,000-member strong engineering regulator.

In his remarks on assuming the President's office from Past President Pat Quinn, P.Eng., Bilanski drove home his belief that an overhaul of engineering education is clearly in order.

"My first priority is bringing engineering education and registration into the 21st century," Bilanski told the April 28 inaugural meeting of PEO Council. Bilanski also referred to PEO's then upcoming June 21 engineering education symposium in Toronto (see pp. 19-21), which would bring together engineering educators from around the world to discuss the traditional education-experience pathway to licensure.

Bilanski also mentioned an enhanced member reporting-registration system, reconsideration of the industrial exception clause in the *Professional Engineers Act* and increased member activism as priority areas for his time as President.

## AGM provincial reports

The 2007 annual business meeting, however, wasn't focused entirely on the future, providing an opportunity to reflect on the overall health of the engineering profession in Ontario and across the country.

Included in this reflection were written status reports from the regulators in British Columbia, Manitoba, Quebec, New Brunswick and Prince Edward

Island, as well as an update from Engineers Canada.

Bob Ito, P.Eng., past president, Association of Professional Engineers and Geoscientists of British Columbia, outlined governance improvements, enhanced quality assurance programs and a more active government relations campaign as key achievements in 2006.

President Robyn Taylor, P.Eng., Association of Professional Engineers and Geoscientists of Manitoba, cited strategic planning and the challenges imposed by a shortage of engineering talent in western Canada as areas of concern for that province.

Zaki Ghavitian, ing., president, Ordre des ingénieurs du Québec (OIQ), discussed how Quebec's engineers have responded to last year's fatal overpass collapse near Montreal. The event has focused attention on the state of roadways and other infrastructure in the province. Ghavitian said Quebec's professional engineers will participate in the public inquiry and have dedicated themselves to implementation of safety solutions.

And, like PEO, OIQ has developed a new strategic plan to chart future direction, and is committed to increased liaison with government officials on matters of public policy, safety and the environment.

## Member submission

The only member submission for discussion at the meeting centred on some uncertainty surrounding candidate

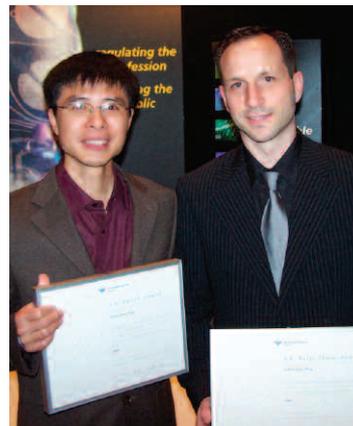
statements distributed with chapter newsletters during the last PEO Council elections. A straw vote at the meeting indicated that many of the members present thought the matter should be looked into to prevent a similar situation in future. Accordingly, at its first meeting, immediately following the AGM business meeting, Council approved an investigation, to be led by Councillor John Vieth, P.Eng., newly elected chair of the Regional Councillors Committee.

## Awards a highlight

The 2007 annual meeting weekend also featured such traditional elements as the Order of Honour Awards gala, on April 27, which recognized the contributions of 12 engineers to the profession, primarily through the association.

A new twist in the awards gala was the inaugural presentation of a new President's Award to Mississauga Mayor Hazel McCallion. The award was created to recognize those non-engineers who have shown continuous support of, and made significant contributions to, advancing the engineering profession. In presenting the award, then President Quinn said Mayor McCallion "has brought to government an understanding and appreciation of the important contributions that professional engineers make to society."

The following day, newly installed President Bilanski presented the V.G. Smith Award and S.E. Wolfe Thesis Award to newly licensed



Shi Lin (Allen) Zheng, P.Eng., (left) and Raffaele (Ralph) Curitti, P.Eng., display their engineering awards April 28 during the PEO annual meeting. Zheng won the V.G. Smith Award for achievement in PEO technical examinations, while Curitti captured the S.E. Wolfe Thesis Award for his engineering report, *Optimizing the Use of Thread Inserts Using Design of Experiments*.

engineers Shi Lin (Allen) Zheng, P.Eng., and Raffaele (Ralph) Curitti, P.Eng.

### Politics the theme

Instead of the traditional Chapter Leaders' Conference, this year's annual business meeting was preceded on April 27 by a one-day conference dedicated to how the engineering profession can more effectively contribute to public policy debate—and why it should do so (see p. 16).

The next day, AGM keynote luncheon speaker Bob Rae, former premier of Ontario and one-time head of the provincial New Democratic party, expanded on the role of engineers in public policy formation.

Rae, who will stand for the Liberal party in the next federal election, told engineers that the challenge for any organization seeking to influence policymaking involves clarity of message, and overcoming gaps in the public understanding between self-interest and public interest.

"Not many people know who you folks are," Rae said. "And if you want to compete with the Ontario Medical Association and with the nurses' association and with all the other organizations that



AGM keynote luncheon speaker, the Hon. Bob Rae, discussed the role of engineering in the creation of public policy.



Among the guests at this year's Order of Honour Awards gala were (left to right) Pat Quinn, P.Eng., then PEO President; Norm Sterling, P.Eng., MPP Lanark-Carleton; David Zimmer, MPP Willowdale; and Bob Goodings, P.Eng., then PEO Past President.

are out there, you have to be assertive; you have to be organized; you have to be focused; and you have to go beyond the first gap to the second gap, which is the gap between what governments and people say, and what they do."

Rae also said engineers have a role to play in convincing governments and policymakers that wiser investments in education and infrastructure can pay dividends in overall quality of life issues.

"My answer to the point about governments sometimes making unwise decisions is to sit down and ask, How did that happen? How did we let it get so far that that is what happened? Was there something in what we did that stopped us from seeing the risks and the opportunities that were there?," he said.

Rae's comments came in response to concern within the engineering community that provincial governments have been losing sight of the value and significance of professional self-regulation, and that the public is putting more demands on professional organizations for increased accountability, transparency and fairness.

Nonetheless, Rae urged engineers to take advantage of the profession's reputation as builders and problem solvers to make new inroads in the public policy debate.

"You have the advantage of being able to deliver your message in a very positive way and of being very much in line and in sync with where I think Canadians, in the vast majority, really want to go and want to see public policy unfold," he said.



At the Order of Honour Awards ceremony, Mississauga Mayor Hazel McCallion was presented with PEO's first President's Award by then President Pat Quinn, P.Eng. The award recognizes non-engineers who have shown continuous support of, and made significant contributions to, advancing the engineering profession.

## Adjust thinking, be proactive, the messages at public policy conference

BY JENNIFER COOMBES

One thing is clear after attending PEO's Engineering and Public Policy conference on April 27: despite the good work to date of PEO's Government Liaison Program, there is still much to be done before engineers will be accepted as true partners in public policy development.

However, the public policy experts on hand offered no shortage of advice. In fact, they offered suggestions and strategies—ways to influence, readjust typical engineering thinking, and respond to calls for advice—to maximize the contribution engineers make to policy formation.

Brian Karney, PhD, P.Eng., professor of civil engineering, University of Toronto, said engineers are too passive: Society tells engineers about a problem, and they go and fix it. Instead, engineers need to be proactive, he said, constantly speaking up for what is good for society and actively involved in the interaction between the people who set policies and the knowledge that's used to make those decisions.

"Some of the pressing urban issues we have—waste disposal, traffic congestion, pollution, and various health issues associated with the urban environment—are ones that engineers think about. All of these have public policy dimensions to them and we need to be part of those conversations, not on an individual level anymore but on the level of society as a whole," Karney added. He said he believes engineers have both an opportunity and a responsibility to be involved in the dialogue and the debate.

But to be a positive force, he says, it's necessary to produce engineers who are broadly educated, who see themselves as global citizens, and who can be leaders in business and good public servants.

According to Karney, "We need broader and more complete integration

not only of technical skills, but of a broad range of communication and problem-solving skills as well. While certainly the basics of an engineering education bring many attributes that are highly desirable to the public policy debate—a background of quantitative analysis, dealing with numbers and models and predictions, and a problem-solving orientation—we also need to communicate. We communicated far too much in the past by grunts. We need to strive to be better story tellers about the way our technology works and the way it interacts with the world, and we need to educate public policy people in what we know and understand."



Hugh Mackenzie, co-chair, Ontario Alternative Budget Working Group; Gail Krantzberg, PhD, director, McMaster University's Centre for Engineering and Public Policy; and Brian Karney, PhD, P.Eng., professor of civil engineering, University of Toronto, were some of the panelists participating in PEO's Engineering and Public Policy conference.

Gail Krantzberg, PhD, professor of civil engineering, McMaster University, and director of the university's new Centre for Engineering and Public Policy, said she believes that not only can engineers serve as key advisors in public and private sectors but, with the proper training, they must.

"What we need are engineers who have more than technical skills. They must understand environmental issues, the world context in which we live, and how governments set policy," Krantzberg said, conceding that perhaps not every engineer needs to understand detailed policy analysis but that there should be a core movement within the engineering profession that does.

However, she cautions, policymakers and engineers think in different worlds. Policymakers, she said, ask questions like, What's the value of this issue? What is the acceptable risk to society? and Why should we take action at this time? whereas scientists and engineers ask things like, How does the world work? If I do x, what will be the result y? and Can I reduce uncertainty? Because it is a completely different type of thinking, there is often a communication breakdown between engineers and policymakers, leading to frustration and misunderstanding, she says. "There's a reasonable probability that to an engineer, policymakers' questions will seem trivial or oversimplified, while there

is an equal probability that to a policymaker, the engineer's response will seem overly complex, ambiguous and equally missing the point," she noted. Often, she added, an engineer lays out a solution, and the policymaker doesn't have a clue what to do with the information because it lacks the economic, societal, environmental or political context.

The differing timeframes of engineering and policymaking can also be a source of conflict, she noted, with the scientific method being inherently rigorous and time-consuming, while policymakers are sometimes forced to make immediate decisions.

Krantzberg said McMaster's master's program in engineering and public policy aims to bring these realms of thought together by teaching students how to communicate, and to whom they need to communicate their solutions: "This program is for students who want to make the world a better place, a more sustainable place. They become world-class engineers who can communicate effectively with public policy decision makers provincially, nationally and internationally."

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Economist Hugh Mackenzie, co-chair of the Ontario Alternative Budget Working Group, echoed Krantzberg's statements. To truly be engaged in public policy, he said, you have to have two questions in mind at all times: Why should engineers care about public policy? and Why should public policymakers care about what engineers think?

Mackenzie says there's a tendency among every professional group to have a well-defined way of thinking about things, and it's natural to believe that the way your profession thinks about the world is the right way. In the case of engineers, they think about the world in structured ways and work from analysis to conclusions to action, he noted.

According to Mackenzie, the critical first step in any discussion is to put yourself in the other person's shoes to be able to look at the world as they do. "Often in public policy, we don't have the luxury of figuring out the structure before we start to do things, because there are other imperatives that drive it. We have incomplete knowledge. Operating in this environment is intellectually alien to a well-trained engineer," he said. "So, if you don't think about the way politicians or bureaucrats look at the world, the constraints they're working with and what they may need from you, then you might as well put on a blindfold and throw darts at the wall in terms of your communication with that person."

Also key is to understand that public policy is about politics, Mackenzie added: "It's not about engineering and it's not about design. It can be about those things, if you work the politics right. When you, as an engineer, are speaking with bureaucrats, they're thinking about you in two respects: they're thinking about the substance of the idea that you're putting across, and they're thinking about how important what you have to say will be to this political leader or that minister."

In the afternoon, three former MPPs delivered their thoughts on how best to get messages through to government.

Marilyn Churley, former MPP, Toronto-Danforth, said that, on the whole, dealing

with politicians is pretty much the same no matter who is in government—you've got to grab their attention. And you can't just show up when you have an issue. She said it's about relationship building, making your contacts knowledgeable about your issue even before you need something, and about forming relationships with your own MPPs and MPs. Said Churley: "I can tell you, from having been a cabinet minister and a backbencher in opposition, that the best thing to have is one or two people who really take an interest in *your interest* and make sure that it's raised at caucus meetings. They become the thorn in the side of the minister responsible." But the real key, Churley said, lies in making oth-

er pathy if you can't find a public interest outcome," Fleet said.

John Hastings, former MPP, Etobicoke North, said he thought PEO is doing some things right, but he remained baffled at why PEO is not at the public policy table in the fullest sense. Hastings said: "You've had the usual advice to get involved politically as a candidate, at a local council, as a school trustee, MPP, or regional councillor. But how can you influence public policy even more?" Hastings advised that to advance engineering in public policy formulation, PEO ought to be taking an inventory of all the public sector areas in which P.Engs already hold positions. "Works commission positions across Ontario usu-

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*Economist Hugh Mackenzie, co-chair, Ontario Alternative Budget Working Group*

ers see that doing something for you is good for them and good for the public.

David Fleet, former MPP, High Park-Swansea, now with Walker Poole Nixon LLP, invited conference delegates to consider 10 questions in contemplating their participation in public policy formation. In particular, he asked, "What are the tools of persuasion?" According to Fleet, an important tool is human contact from a trusted source: "If you're in government and you have to do something, whose advice is likely to be influential? If you haven't been talking to them [the government], why would you suddenly expect, out of the blue, that they're going to listen to you?"

He also pointed out the need for engineers to determine their "ask"—that is, what engineers want. "If PEO doesn't know what it wants, it's never going to get anything. And measure your ask against public interest. You won't get a lot of sym-

ally require a P.Eng.; P.Engs can also be found at the Ontario Energy Board, the NRC (National Research Council) and a whole set of positions that are technically and technologically oriented or have a large science policy component," he said.

Outgoing President Pat Quinn, P.Eng., summed up the conference by suggesting that the answer must begin from within. "PEO, as a regulator, needs to be looking at the public interest in a much broader way. We need to develop a culture where engineers are not just number crunchers but they're getting involved," he said. Quinn said he believes the profession should be pushing more vigorously without fear and not be so concerned about offending people: "We have to be firm enough that people know we're not to be messed with. But we also have to accept that the journey that we're on is going to take a little bit of time. We have to be patient and we have to be persistent, but it's very much in our hands."

# Opening debate on engineering education reform

By MICHAEL MASTROMATTEO

The majority of participants at PEO's June 21 Future of Engineering Education and Licensure conference in Toronto expressed support for the current academics and experience route as the most effective measure of an applicant's worthiness to enter the profession.

But if there appeared to be strong support for the current evaluation process based on peer review of an applicant's education and relevant professional experience, there was also some interest in regulators providing alternative paths to the engineering licence. Among them are lengthening the traditional four-year engineering undergraduate program, or instituting a master's degree program as a prerequisite for admission to the profession.

An initiative of PEO President Walter Bilanski, PhD, P.Eng., the conference attracted about 150 people to review the existing state of engineering education and to consider possible responses to such issues as globalization, emerging disciplines, the integration of international engineering graduates and the adequacy of the four-year undergraduate degree in preparing future engineers for a changing engineering marketplace.

In his opening remarks, Bilanski referred to the conference background paper that emphasizes the regulator's responsibility to review education and licensing processes on a regular basis. Reiterating his desire to bring engineering education "into the 21st century," Bilanski proposed that engineering follow other senior regulated professions in beefing up its admission requirements.

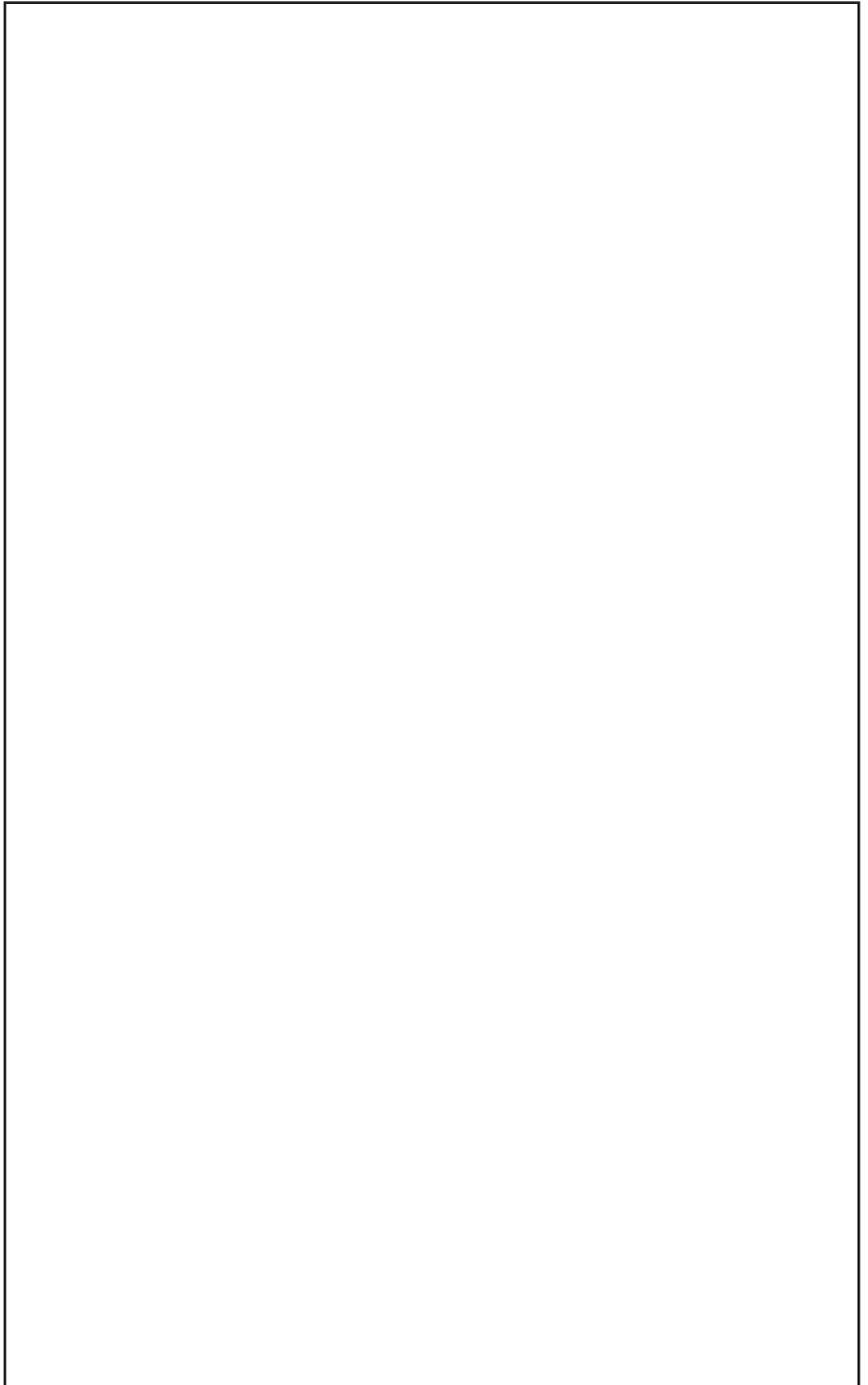
In addition to deans of engineering from several Ontario universities, speakers included representatives of the Canadian Engineering Accreditation Board (CEAB), the Canadian Academy of Engineering, Engineers Canada, the (US) National Council of Examiners for Engineering and Surveying, and the United Kingdom Engineering Council.

Ontario MPP John Milloy (Kitchener Centre) brought greetings from the Ontario government, and Ontario Fairness Commissioner Jean Augustine

provided an update on her work of ensuring the province's 37 regulatory bodies demonstrate compliance with the requirements of the *Fair Access to Regulated Professions* legislation. The legislation, most of which came into effect on March 1, allows the province to impose fines

on regulators failing to live up to fair access expectations.

MPP Milloy, parliamentary assistant to the Minister of Training, Colleges and Universities, said all regulators face a difficult balancing act in overseeing the licensing and qualifications of members,





PEO President Walter Bilanski, PhD, P.Eng., chats with Fairness Commissioner Jean Augustine at the Future of Engineering Education and Licensure conference June 21 in Toronto.

maintaining performance standards for public safety, and accommodating international applicants.

He saluted PEO, in particular, for taking a more proactive role in responding to the concerns of international engineering graduates. "When it comes to using these people's skills and experience as an ingredient in an increasingly competitive, knowledge-based economy, your organization gets it," Milloy said.

The education conference provided a brief comparison of the Canadian/Ontario education and licensing model with those of the United States and the United Kingdom. Discussion focused largely on the benefits of work experience and apprenticeships as real-world complements to the engineering undergraduate experience. Participants also outlined the difficulties associated with degree recognition in different jurisdictions, and described efforts by engineering regulators in western Canada and the northwestern United States to facilitate American engineers taking on work in Alberta and other areas currently dealing with a shortage of qualified engineers.

### Professional skills

Several of the deans of Ontario engineering schools stressed the importance of imbuing graduates with "soft" or "professional" skills as a necessary ingredient in the formation of better engineers. Among these non-technical but otherwise vital skills are communications,

critical thinking, innovation, adaptability and ethical behaviour.

Tom Harris, P.Eng., then dean of engineering, Queen's University, said employers hiring Queen's engineering graduates appear satisfied with the graduates' technical abilities. He questioned the effectiveness of adding a fifth year to the current four-year undergraduate program.

"Some things simply take time," Harris said, "and I would argue that good engineers don't stop learning once they leave university, and that employers and employees have a shared responsibility to upgrade their credentials and their knowledge."

Other deans agreed that packing more courses into the undergraduate engineering program would not necessarily produce better qualified engineers. For example, Graham Reader, PhD, P.Eng., dean of engineering, University of Windsor, and chair, Council of Ontario Deans of Engineering, said extending the length of the bachelor of engineering curriculum wouldn't satisfy all the demands imposed on today's practitioner. He suggested some of the interest in revamping the profession's education requirements could stem from fears that engineering is losing status compared to lawyers and doctors. He also suggested there could be a role for learned engineering societies to compel new graduates to upgrade their knowledge post graduation.

In reviewing the challenges facing contemporary engineering education, Adel Sedra, P.Eng., dean of engineering, University of Waterloo, suggested that the

low level of Canadian engineering graduates going on to licensure should be at the top of the list.

Sedra suggested that combining the undergraduate experience with co-op placements, as is done at the University of Waterloo, is one way for future applicants to combine classroom instruction with the hard realities of industry and professional practice.

### Accreditation

In response to criticism that the Canadian system of accrediting engineering programs as meeting the academic requirements for licensure tends to stifle innovation, Sedra said: "I believe we actually have a very good [engineering education] system in Canada. In Canada, the difference between the very best and bottom schools is very narrow, and I believe that the current accreditation process has contributed to the uniformity of standards and quality we have today."

Despite some disagreement on whether to add an additional year to the undergraduate course load or impose standard examinations on all applicants for licensure, conference delegates were in accord on the need to imbue future engineers with new skillsets and a commitment to life-long learning as professionals.

In outlining PEO's current licensing and registration procedures, speaker James Lee, P.Eng., chair of PEO's Academic Requirements Committee, said the system is already imbued with fairness, a

*"Some things simply take time, and I would argue that good engineers don't stop learning once they leave university, and that employers and employees have a shared responsibility to upgrade their credentials and their knowledge."*

Tom Harris, P.Eng., then dean of engineering, Queen's University

commitment to public safety and an ability to reflect the breadth of diverse engineering educational systems.

“We think it’s a fair process because it recognizes the engineering credentials of non-CEAB applicants and non-Canadians and, more importantly, it’s also a very flexible process because we can handle diverse academic qualifications,” Lee added. “Lastly, it obviates any need to get into a discussion of the value or quality of academic qualifications from different countries because everybody goes through the same process.”

He also said PEO’s upcoming Licensing Process Task Force report is an example of a quality check on the existing process.

Lee said that while there are many advantages to the current system of assessing applicants’ academic credentials, there is still some onus to consider changes. He suggested that any plans to lengthen or pack more courses into an engineering undergraduate degree program, for example, will result in changes in academic assessment activities. Lee also wondered if an expanded undergraduate program might serve as disincentive to some students in pursuit of an engineering degree.

### Access makes sense

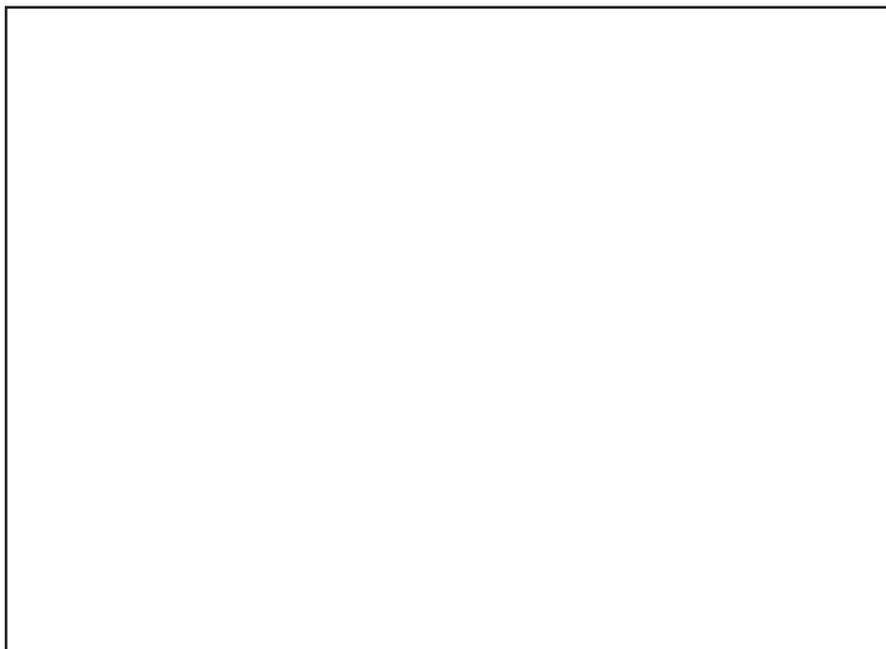
Ontario Fairness Commissioner Jean Augustine spoke towards the end of the conference, reiterating the view that efforts to improve access to the engineering profession make good economic sense in an era of increasing knowledge-based competition and globalization.

The fairness commissioner repeated some of her remarks made at a recent town hall meeting organized by PEO’s Mississauga Chapter (see p. 27) that fair access legislation is not intended as a coercive force against regulators. “We’re not here to police the [licensing and registration] process, but to work with you to ensure compliance, fairness and transparency,” Augustine said. “My role as fairness commissioner is to help lower the barriers to access, not to lower the standards for admission.”

Augustine again praised PEO for leading the way in accommodating international engineering graduates in the self-regulating professions.

In summarizing the conference discussions, President Bilanski said the aim was to foster debate among stakeholders on the engineering education question. Given rapid technological advances, globalization, the need to recognize international credentials, specialization and the use of more multi-disciplinary work teams, the demands on the professional continue to increase, Bilanski said.

“This has been an essential first step to our incorporating a plan that will maintain the public’s confidence in our profession and in PEO as its regulator,” he added. “Let us not forget that to maintain this confidence, the path to becoming a professional engineer must be, and be seen to be, both progressive and rigorous, and engineering has done the least to update the registration requirements of the top 15 professions.”



## Regulation invites parallel qualification regime

BY MICHAEL MASTROMATTEO

Fresh from its legal victory in relation to certain *Ontario Building Code* revisions, PEO continues to face uncertainty from the environment ministry over qualifications for engineers involved in the testing, sampling and monitoring of wells.

Proposed amendments to the Ministry of the Environment's Regulation 903/03 establish a licensing regime that would require engineers to obtain a well technician or well driller licence to carry out activities associated with ground wells.

Although the engineering regulator has no qualms with the environment ministry setting the standards for well construction, PEO believes Regulation 903 inadvertently conflicts with the *Professional Engineers Act* by imposing limits on practices that fall under the definition of professional engineering.

In an April 2007 letter to the ministry, PEO CEO/Registrar Kim Allen, P.Eng., suggested the regulation appears to be an attempt by the ministry to assert jurisdiction over activities traditionally undertaken by engineers.

"Professional engineers with academic training in environmental, civil or geological engineering are trained to design, inspect and conduct geotechnical, geoenvironmental and hydro-geological drilling programs, and should not require any further training in order to carry out these activities," Allen said. "Therefore, the requirement that professional engineers be licensed [under the environment ministry] is unwarranted and would impose a barrier for practitioners to provide services, although they are already qualified under their existing licences."

PEO has asked that the ministry consider revising the regulation to exempt engineers from the well licensing regime, or to make a clear distinction between construction of potable water wells and those used for engineering and geoscience purposes.

In March 2007, the environment ministry posted proposed changes to

Regulation 903 on the Environmental Bill of Rights (EBR) registry for public comment. The EBR posting said the ministry was seeking input on possibly exempting engineers and geoscientists from the new well technician licence. The ministry notice also cited PEO's position that its members are sufficiently qualified (and subject to discipline) in dealing with water well construction.

Bernie Ennis, P.Eng., PEO's manager of practice and standards, says that despite acknowledging PEO's position on the issue, Regulation 903 at present still requires P.Eng.s to obtain a well technician licence to perform installation, monitoring and testing of wells.

"Although the regulations created an exemption for some low-risk activities, it

is PEO's stated opinion that there should be a complete exemption for professional engineers undertaking the well technician tasks," Ennis said.

PEO last met with environment ministry officials April 20, and no further meetings are scheduled for the time being.

Regulation 903 was first proposed by the environment ministry in 2003 as part of the government's efforts to deal with water quality problems arising from poor construction of private wells. The regulation is said to impose higher standards for well construction and increased oversight of the training and performance of well technicians. The standards are to apply to construction of all new wells, as well as to abandoned or decommissioned wells, in the province.

## Canadian Council launches new brand

BY NICOLE AXWORTHY

The Canadian Council of Professional Engineers officially launched its new business name, Engineers Canada, at its annual general meeting in May. The association's legal name remains unchanged, and Engineers Canada will continue to work in the same areas it has for the past 71 years—namely, promoting Canada's engineering profession and facilitating the mobility of engineers across the country.

Engineers Canada believes the new business name captures the energy of today's engineers and better reflects the profession's dynamic nature. "Engineering has changed over the last 20 years," said Ken McMartin, P.Eng., outgoing president of Engineers Canada. "Technical skills are key, but so too are teamwork, negotiation skills, problem solving and creativity. It is important that our business name reflects who we are today."

The name change proposal came following a study by the federation of engineering licensing bodies that its legal

name and CCPE abbreviation are not widely recognized by government or other stakeholder organizations, and that a newer, easy-to-remember name might promote greater recognition and appreciation of the organization and its objectives. PEO Council gave thumbs up to the proposal in early March, and followed suit by adopting Engineers Ontario as an official mark.

"We were glad to find support for creating a new, memorable name that we know will help us promote engineering and thus help improve Canadians' quality of life, health and economic prosperity," said Engineers Canada CEO Marie Lemay, P.Eng., ing.

The new Engineers Canada logo depicts a modified maple leaf reflecting the national nature of the organization. The implied movement in the image is said to symbolize how, in collaboration with its constituent members, "Engineers Canada is building an even brighter future for Canada's engineering profession."

# Public has confidence, but room for improvement

By DAVID SMITH

PEO acts ethically and performs its duties with integrity, according to results of a recent survey of association stakeholders.

The survey was an initiative from PEO's 2005-2009 Strategic Plan and is intended to establish a benchmark for the ongoing measurement of confidence in the regulator and the P.Eng. licence.

PEO commissioned Ipsos Reid to help formulate and administer the survey, which was sent between January 17 and 31, 2007 to all licence holders, members of the engineering intern training (EIT) program, students and third-party contacts, for whom PEO had email addresses.

In total, over 5700 respondents completed the survey. The results can be considered accurate to within plus or minus 1.2 percentage points, 95 per cent of the time. The licence holder, EIT and student data were weighted to ensure the results are representative of their respective groupings.

## What you said about PEO

- In carrying out its mandate, 92 per cent of respondents believe PEO acts ethically (8 per cent responded "don't know"). Eighty-six per cent believe PEO treats licence holders professionally, and the same proportion (86 per cent) feel the association applies standards and decisions in a fair and impartial manner;
- Nearly 80 per cent of stakeholders trust that PEO looks after the public's interests (79 per cent) and that its decisions are well-considered (76 per cent);
- Eighty per cent of stakeholders indicate confidence in PEO in both its licence-granting (88 per cent) and regulatory (83 per cent) roles;
- Just over half of stakeholders (54 per cent) would speak highly of PEO if asked their opinion of the association; very few (8 per cent) would be explicitly critical of it, while the remainder would be neutral (38 per cent);
- One in two (52 per cent) stakeholders surveyed believe PEO advocates on behalf of the profession;

- A greater portion of stakeholders know that PEO is accountable to the general public (67 per cent) than know that it is accountable to the Attorney General of Ontario (47 per cent); and
- Sixty per cent of respondents believe PEO is accountable to licence holders.

## What you said about the P.Eng. licence

- Nine in 10 (91 per cent) agree that licensing professional engineers is an effective means of protecting public welfare;
- More than eight in 10 stakeholders agree that self-regulation is an appropriate model for both licensing (86 per cent) and disciplining professional engineers (83 per cent);

- There is strong agreement that: Ontario-licensed P.Engs have enough academic education to competently exercise engineering judgment (82 per cent), and are capable of performing the work they undertake (80 per cent);
- Half (55 per cent) of stakeholders feel there is a very high degree of professionalism inherent in the P.Eng. licence. In part, stakeholders' confidence rests on whether licensed engineers keep up their professional development; and
- Seventy-five per cent of stakeholders believe PEO should assess the extent to which P.Engs "keep up to date on improving professional standards throughout their careers." All the third party contacts among the stakeholders agreed with this statement.

## Consulting engineers face new market realities

By MICHAEL MASTROMATTEO AND  
JENNIFER COOMBES

Clients from all sectors are demanding more from consulting engineers in light of increased concern about energy, the environment and the challenges imposed by urban infrastructure renewal.

At the same time, consulting engineers must contend with changing market realities that call for greater accountability, transparency and cost justification.

A discussion of the changing market conditions was a highlight of the annual general meeting of Consulting Engineers of Ontario (CEO), held May 30 to June 1 in Waterloo. CEO represents the commercial and business interests of more than 250 member firms.

The panel discussion was led by newly installed Chair Bob Fleeton, P.Eng., and included Michael Thorne, P.Eng., former commissioner of public works, City of Toronto; Ben Novak, past chair, Association of Consulting Engineers of Canada (ACEC); Adel Sedra, P.Eng., dean of engineering, University of Waterloo; and Brian Watkinson, retiring executive director, Ontario Association of Architects.

Other speakers appearing at the three-day conference included George Roter,



Bob Fleeton, P.Eng., president, KMK Consultants Limited, is incoming chair of Consulting Engineers of Ontario.

co-founder of Engineers Without Borders (EWB); recruitment authority Mark Schwartz; and Kyle Davy, author of *Value Redesigned*, a study of models for professional practice in a changing marketplace.

Waterloo Mayor Brenda Halloran brought greetings to consulting engineers and outlined the city's participation in the International Intelligent Communities

competition (in which Waterloo was named the World's Top Intelligent Community for 2007).

In their discussion of the new marketplace realities for consulting engineers, panelists discussed increasing competition among firms and efforts to secure contracts by lower-price tender bids as problem areas that have plagued engineers since the

## Academy stresses P.Eng. policy contributions

By MICHAEL MASTROMATTEO

Recognition of the engineering profession's value as a contributor to public policy formation at a time of increasing energy supply and environmental concerns appears to be gaining momentum.

Many of the presenters at the May 31 to June 1 annual meeting of the Canadian Academy of Engineering (CAE) in Toronto emphasized how the triple threat of environmental degradation, fossil fuel depletion and climate change present a new opportunity for the profession to exert its technological savvy for the greater public good.

The CAE annual meeting was also the occasion for induction of 24 new engineering fellows, denoted by the FCAE designation.

Members are nominated and elected by their peers to honorary fellowships, marking career achievement and service to the profession.

At the June 1 induction ceremony, CAE President John McLaughlin, P.Eng., said the 2007 inductees are an outstanding group, who have significantly enhanced the profession (for list of Ontario P.Eng. inductees, see Awards, p. 41).

Doug Reeve, PhD, P.Eng., professor of chemical engineering, University of Toronto, moderated a panel discussion on the special dynamic among engineers, the environment and energy policy.

Organized under the theme, "Can engineers have more impact on energy and

environmental policy?," the panel included "technology developer" Clem Bowman, PhD, P.Eng., energy reporter Claudia Cattaneo of the *National Post* newspaper, and Tom Adams, co-founder of Energy Probe. Adams was invited to the annual meeting to provide a critique of nuclear energy in light of the Ontario government's stated intention to retain nuclear power as part of the province's electricity generation mix.

Other speakers included Mike Lazaridis, founder and co-CEO, Research in Motion, and Ilse Treurnicht, CEO of the new MaRS innovation facility in Toronto.

David Torgerson, P.Eng., senior vice president and chief technological officer, Atomic Energy of Canada Ltd., outlined advances with CANDU reactor technology.

In his presentation on the engineer-energy policy link, Bowman cited the academy's *Pathways to Canadian Energy Leadership* paper, a comprehensive review of energy and environmental options. The paper is a continuation and update of its 2002 *Energy and Climate Change* study. It concluded that a "long-term, sustainable energy strategy needs to be developed, which will necessarily require a larger choice of energy sources and technologies than [are] presently available."

The energy paper's aim, Bowman said, is to identify barriers to the development and efficient use of economic and environmentally acceptable energy sources in Canada, and the technologies that can overcome such barriers.

mid-1990s. Consulting engineers also expressed dismay at the growing influence of firms' legal and procurement departments in determining what kinds of projects to take on. However, a new awareness in the marketplace of quality-based selection (QBS), by which major engineering project proposals are evaluated first on factors other than price, is leading to a better appreciation for consulting engineers' potential to address infrastructure and energy supply challenges.

Said Fleeton: "I believe that if clients select a firm on the basis of qualifications, experience and past performance, we will all be better served, including the public, who at the end of the day are the real beneficiaries of our work."

Consulting engineers were generally in agreement that the marketplace is demanding more transparency and accountability on the part of firms seeking to participate in major engineering projects. As such, consulting engineers would do well to understand customer expectations and make some effort to ensure engineering concerns are expressed during the province's public policy formation process.

Prior to the panel discussion, George Roter outlined EWB's work in bringing engineering solutions to the problems of political strife, poverty, malnutrition and poor sanitation in much of the developing world. "We're going to need engineers in traditional and less traditional ways to build a local business capacity to these parts of the world," Roter said. "There's no doubt that creating solutions is going to require an engineering approach."

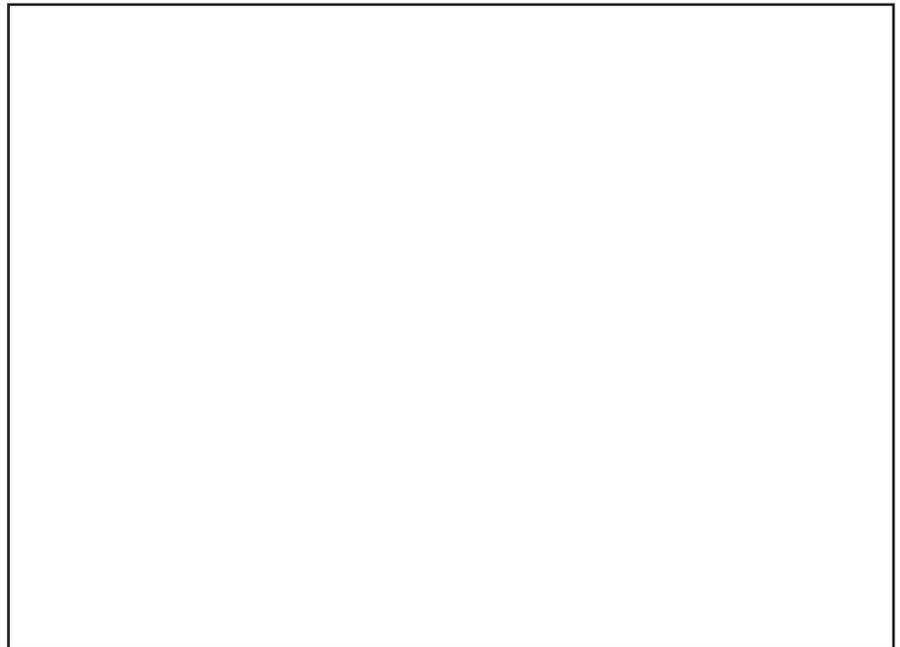
Roter called on consulting engineers to consider supporting EWB and its mandate of helping developing nations build and maintain basic social infrastructure, such as wells, irrigation and power generation systems. "Global poverty and inequality are going to shape the world over the next 10 to 15 years," Roter said, "and engineers cannot be but on the leading edge in response to these issues, but it will require a more global perspective to our life and work."

On the business side of the proceedings, outgoing CEO Chair Ian Williamson, P.Eng., began the day with

an overview of his year at the helm. One of CEO's major priorities was promoting QBS and the Infraguide for selecting a professional consultant, through such activities as jointly hosting a seminar with the Ontario Society of Professional Engineers, and partnering with ACEC on a three-ad campaign that carries the message "Engineers' Hands Shape Our World" ([www.thebestpractice.ca](http://www.thebestpractice.ca)). Their efforts have met with considerable success, he said. The City of London, for exam-

ple, has adopted QBS and there has been dialogue between CEO and the Ministry of Public Infrastructure Renewal.

Later in the morning, John Boyd, P.Eng., incoming president, International Federation of Consulting Engineers (FIDIC), mentioned that following CEO President John Gamble's presentation at the FIDIC conference in Budapest last year, he was inundated with interest from engineers in other parts of the world trying to find out how they could use QBS in their



own countries. “We’ve set a bar that is not just applying in Canada, but demonstrates to the rest of the world that this is the right way to do things,” Boyd said.

Other of CEO’s accomplishments during the year included enhancing CEO’s AGM and awards by changing the event from a luncheon to an evening event, expanding the membership, addressing client perceptions of service and quality through the activities of a newly established Business Practice Committee and a quality management survey, and promoting a good business and regulatory climate.

In his first remarks as incoming chair, Fleeton said he is looking forward to a fruitful working relationship with the new board and is confident that together they will be able to further the goals of private sector engineering firms. He would also like to continue the momentum of the previous year. “Over the following year, I would like to see the continuation of the work of the Business Practice Committee and expand the effort to include dialogue with the purchasing/procurement people and with senior levels of municipal government through presentations at conferences and seminars,” he said.

“We’ve set a bar that is not just applying in Canada, but demonstrates to the rest of the world that this is the right way to do things.”

John Boyd, P.Eng., incoming president, International Federation of Consulting Engineers

Claude Paul Boivin, ACEC president, had some positive news to share about the state of the consulting engineering industry in Canada. He said the past 12 months have been good for the industry and the national association, and that firms are very busy. With a total revenue of \$13.8 billion, Canada is the fourth largest exporter of engineering services. Ontario’s share is 30 per cent. Overall, the Canadian engineering industry is growing at a faster pace than the economy.

Boivin tempered the good news—that infrastructure is a national economic priority and spending is expected to increase from the current \$3.2 billion a year to \$5.7 billion a year by 2014—by stating that there still are problems to contend

with. “Currently there is no dedicated highway funding, no long-term funding, although billions are promised, and there is no roundtable of experts,” Boivin said.

In a related development, ACEC, of which CEO is a constituent member, will likely be changing its name to the Association of Canadian Engineering Companies. The proposed name change stems from concerns that the word consulting is not well understood by the general public. It is expected the new name will be approved at the association’s July 2007 general meeting in Yellowknife.

One of the highlights of the business meeting was a report by Bernie Ennis, P.Eng., PEO’s manager of practice and standards, on where engineers go from here now that the Ontario Superior Court judges confirmed PEO’s authority to regulate the practice of engineering in Ontario (see p. 12).

An AGM wouldn’t be complete without a report of the installation of the new board. Joining incoming Chair Bob Fleeton, the other officers for 2007-2008 are Vice Chair Anita Smith, P.Eng.; Treasurer David Amm, P.Eng.; Secretary Shawn Gibbons, P.Eng.; and Past Chair Ian Williams, P.Eng. Newly elected directors are Vic Anderson, P.Eng., Gerry Egberts, P.Eng., Jim McEwen, P.Eng., and Peter Ojala, P.Eng. Returning directors are Bill De Angelis, P.Eng., Chris Redmond, P.Eng., Dave Tipler, P.Eng., and Greg Turchyn, P.Eng.

University of Waterloo President David Johnston, the luncheon keynote speaker, closed the annual meeting.

# Lack of awareness hinders internationally trained

By MICHAEL MASTROMATTEO

International engineering graduates struggle with a widespread lack of awareness as to the significance of self-regulation and the need to carefully measure their education and experience as a prelude to licensing.

A May 22 town hall meeting examining the problems of internationally trained professionals revealed that a lack of information about admissions and registration remains one of the major “barriers” to licensing.

The town hall meeting, which adopted the theme of internationally trained professionals as an untapped resource, was organized by PEO’s Mississauga Chapter. More than 200 people attended the two-hour gathering.

Hosted by Global Television’s Sean Mallen, the town hall meeting included an address by former MP Jean Augustine, the recently appointed Ontario fairness commissioner.

Other panelists included PEO President Walter Bilanski, PhD, P.Eng.; PEO CEO/Registrar Kim Allen, P.Eng.; Doug Hink, P.Eng., vice president, SNC Lavalin; federal members of parliament Omar Alghabra, P.Eng. and Wajid Khan; members of provincial parliament Khalil Ramal and Frank Klees; and Allison Pond, director, Access Counselling and Community Services. A last-minute addition to the panel was Jagtar Singh Shergill, a New Democratic Party candidate in the next federal election.

This was the second town hall meeting organized by the Mississauga Chapter. In November 2006, the chapter invited Ontario Progressive Conservative leader John Tory to share his views on overcoming barriers to the profession.

Although Augustine had been fairness commissioner only since March, she had already met with a number of professional regulatory bodies in an effort to understand their concerns with respect to streamlining the accreditation process for internationally trained professionals, she said.

In her role of overseeing regulators’ compliance with the Ontario government’s fair access legislation (Bill

124/06), Augustine emphasized that it is not her job to “police” regulators, but to determine how they are living up to the government’s expectations of fairness and accountability.

Titled the *Fair Access to Regulated Professions Act*, the new law received Royal Assent in December and most sections were proclaimed in force on March 1, 2007. It allows for fines of up

to \$100,000 for regulators who fail to comply with the province’s fairness and accessibility requirements.

“Regulatory bodies are charged only with removing barriers to their professions,” Augustine assured the audience. “We’re not talking here about having regulatory bodies reduce standards as a way of getting people in.”

*continued on p. 28*

## Mississauga Chapter matches skilled immigrants with professional engineers



Left to right, Awny Fahmy, mentee; Tapan Das, PhD, P.Eng., mentor program chair and vice chair, Mississauga Chapter; Khalid Aldolainy, mentee; and Ghassan Ghali, P.Eng., mentor.

By TAPAN DAS, PHD, P.ENG., AND JANA HAVARD, P.ENG.

PEO’s Mississauga Chapter’s mentoring program, in which experienced P.Eng.s provide guidance and advice to licensure applicants, was originated by Chapter Vice Chair Tapan Das, PhD, P.Eng., in 2006. To find out the mentoring needs of prospective mentees, the chapter organized an open house on May 1, 2006, at which Moody Farag, P.Eng., PEO manager, admissions, presented the requirements for licensure and asked prospective mentees to fill out a questionnaire. The chapter also sent emails to professional engineers in the Mississauga area, asking them to join the program as mentors, and received 51 responses. With this information, the chapter met with three external agencies that had pursued similar mentor programs: Toronto Region Immigrant Employment Council (TRIEC), Dixie Bloor Neighbourhood Centre (DBNC) and Access Counselling and Community Services (ACCES).

Mississauga is the second largest PEO chapter with about 5500 professional engineers—so there is a significant resource of professionals to share their expertise through the mentoring program. Currently, 74 professionals act as mentors and, although the program was intended for any applicant seeking mentoring prior to licensure, it has created an overwhelming interest among international engineering graduates in the Mississauga area. Most immigrants initially settle in the Greater Toronto Area, including Mississauga.

Thirty engineers have been matched with mentors so far—some have already obtained jobs with the help of their mentors and the agencies—and ACCES is continuing to recruit new consultants to help match and monitor new pairs. PEO has approved special funding of \$5,000 for the program, and thanks to help from Phil Maka, P.Eng., Colin Moore, P.Eng., Alberto De-Santis, P.Eng., Katherine Diep, EIT, Pappur Shankar, P.Eng., the external agencies and many others, the program has been a success.

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Augustine also referred to the Ontario government's new Global Experience Ontario centre in Toronto—with a second office to open in London—which is aimed at providing additional information and resources to internationally educated professionals seeking to apply for licensing. To date, internationally educated engineers are the biggest client group at the Global Experience Ontario centre.

Conservative party MPP Frank Klees praised PEO for its efforts to accommodate international engineering graduates, while also suggesting there is something “fundamentally wrong” with regulators’ requirements that applicants demonstrate Canadian experience and educational equivalency as part of the licensing process. Klees said that in the interests of removing barriers to accreditation, some regulators should review what he described as their purely “gatekeeping” function.

Alghabra, one of the few professional engineers now serving in the federal parliament, said fairness and “economic necessity” demand that Ontario make full use of the skills and experience of its internationally educated engineers. He admitted that issues of accreditation and equivalency are not easily solved due to a lack of consistency in evaluating appli-



Mississauga-Erindale MP Omar Alghabra, P.Eng., discusses access to self-regulated professions May 22 at the PEO Mississauga Chapter town hall meeting. To the left is Ontario Fairness Commissioner Jean Augustine, who was keynote speaker at the gathering. To the right is PEO President Walter Bilanski, PhD, P.Eng.

cants’ qualifications. He also said that a lack of awareness on the part of many new Canadians as to self-regulation and licensing creates additional problems.

He said he is encouraged, however, by a sense that PEO and other regulators appear to be “taking ownership” of the access issue and are working with governments and other stakeholders to find workable solutions.

Despite the optimism expressed by many of the panelists, the town hall meeting indicated that many would-be licence applicants have a poor understanding of licensing and self-regulation. A video presentation prepared by the Mississauga Chapter, and screened during the meeting, featured several international engineering graduates who appeared to have little knowledge of PEO and its licensing process. This is despite PEO’s efforts to promote its licensing requirements overseas and to allow IEGs to begin the licence application process prior to their arrival in Ontario.

Some questions from members of the audience also revealed a lack of awareness of self-regulation, along with a perception that simply obtaining an engineering or medical licence is a guarantee of career-related employment.

Tapan Das, PhD, P.Eng., chair of the Mississauga Chapter’s town hall committee, told *Engineering Dimensions* the point of the gathering was to bring the plight of some international engineering graduates to the attention of politicians, corporations and advocacy groups.

“The slide show of the four recent immigrants highlighted the flaw of the immigration process and the pain of reality,” Das said.

In addition to Das, the town hall organizing committee included Chapter Chair Pappur Shankar, P.Eng.; Wafik Sunbaty, P.Eng., Government Liaison Program subcommittee chair; Alan Giacomelli, P.Eng., past chapter chair; Phil Maka, P.Eng., PEO Councillor; and Colin Moore, P.Eng., PEO Councillor.