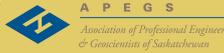




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# REGULATORS AND ENGINEERS CANADA LOOK TO INCREASED COLLABORATION

ENGINEERS CANADA REMAINS COMMITTED TO CONTINUOUS IMPROVEMENT IN ITS DEALINGS WITH CANADA'S ENGINEERING REGULATORS AND IN ITS EFFORTS TO ADVANCE THEIR INTERESTS.

BY MICHAEL MASTROMATTEO



A recent *National Post* supplement dedicated to the engineering profession in Canada included an item from Engineers Canada CEO Chantal Guay, ing., P.Eng., who argued for a greater commitment from stakeholders to infrastructure renewal.

Headlined "Strategic action is needed for Canada's infrastructure," Guay's article alluded to one of the key roles Engineers Canada exercises on behalf of its constituent associations (CAs, the provincial/territorial engineering regulators across the country).

"Accomplishing [a strategic approach to sustainable infrastructure funding] takes innovation, leadership and coordination between various stakeholders, something Engineers Canada has already been doing through its collaboration with government, the profession and industry," Guay wrote. "Engineers Canada is committed to continuing its work with government, practitioners and other stakeholders to show leadership, provide expert advice and share best practices to ensure we have the safe, reliable, well-planned and well-maintained infrastructure Canadians deserve and need to envision for a prosperous future."

Although Guay's words in this instance focused on wise infrastructure investment, they also shed light on the dynamic between Engineers Canada and its 12 CAs in bringing a sense of cohesiveness to Canada's engineering community.

Words like "collaboration," "synergy" and "sharing best practices" crop up frequently in conversations with Guay. As CEO of the national engineering organization since 2008, Guay is prone to use conciliatory, consensus-building words to describe Engineers Canada's role and its efforts fulfilling its objectives.

Established in 1936, Engineers Canada is, at its most basic, the national organization of the 12 provincial and territorial associations that regulate the practice of professional engineering in Canada and license the country's more than 234,000 professional engineers. For many years, Engineers Canada was known as the Canadian Council of Professional Engineers (CCPE, still its legal name), but a rebranding exercise in 2007 led to the adoption of the newer Engineers Canada business name (see *Engineering Dimensions*, May/June 2007, p. 26).

While Engineers Canada has no regulatory or licensing authority, it delivers on behalf of the CAs national programs and services designed to ensure high standards of engineering education, professional qualifications and professional practice.

It also serves as the voice of the CAs in national and international affairs and coordinates the devel-



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Chantal Guay, ing., P.Eng.  
CEO, Engineers Canada

opment of model national policies, positions and guidelines for the CAs to adopt as appropriate.

In terms of government relations and the profession’s “visibility,” Engi-

neers Canada is dedicated to promoting more understanding of the nature, role and contribution of professional engineering in society and maintains active liaison with the federal government in matters relating to engineering and the CAs.

### DIRECT BENEFITS

In addition to doing national government relations, Engineers Canada provides other services of direct benefit to the CAs. Chief among these is its accreditation of undergraduate engineering programs at Canadian universities. Through the Canadian Engineering Accreditation Board (CEAB), a body comprising engineer appointees from the CAs, Engineers Canada ensures high academic qualifications for entry to the profession and assesses the equivalency of the academic accreditation systems used in other nations relative to the Canadian system. The CEAB also monitors the accreditation systems employed by the engineering bodies that have entered into mutual recognition agreements with Engineers Canada.

To assist its CAs in assessing the academic qualifications for applicants who have not graduated from an accredited engineering program, it publishes the Engineers Canada Examination Syllabus and maintains the International Institutions and Degrees Database.

Engineers Canada also coordinates research on the nature of engineering work in Canada, the Canadian labour market for engineers, and publishes an annual *Canadian Engineers for Tomorrow: Trends in Engineering Enrolment and Degrees Awarded* report, based on a questionnaire completed by each engineering faculty.

The national policies developed by Engineers Canada, however, are not binding on its CAs, which alone have the legal authority to grant licences and regulate professional engineering practice within their borders. In fact, Engineers Canada has no regulatory authority or statutory basis, existing as a creature of the CAs to provide national coordination and support to promote consistency in the licensing and regulatory practices of its members.

A portion of the annual fee paid by all licensed engineers and interns in Canada goes to support Engineers Canada. The rate of assessment for all constituent associations is \$10.21 for each member and engineering intern. This per capita rate has remained the same since 2006.

The organization’s (unaudited) operating expenses for 2010 were more than \$7.4 million, with about 32 per cent of the cost of its programs supported by its CAs.

### WORKING IN HARMONY TO ADDRESS COMMON CHALLENGES

In addition to fostering information exchange among Canada’s engineering regulators, Engineers Canada has spearheaded a number of projects and programs focusing on issues of national importance. Here are some of the most significant current initiatives demonstrating the national organization’s commitment to collaboration and the promulgation of best practices.

#### SYNERGY TASK FORCE

Devoted to Engineers Canada’s governance and financial sustainability, the Synergy Task Force operated on guiding principles of ensuring “the commitment and engagement of constituent associations, open and transparent communications, and timely and committed decision making,” says Engineers Canada CEO Chantal Guay, ing., P.Eng.

The task force, whose members included former PEO presidents Catherine Karakatsanis, P.Eng., FEC, and Diane Freeman, P.Eng., FEC, established a modified framework

for Engineers Canada to ensure its financial and administrative integrity, while remaining committed to the core needs of its constituent associations.

As Engineers Canada President Brent Smith, P.Eng., FEC, noted over the summer: “Our new strategic plans continue to include activities that support our associations’ regulatory activities and their efforts to ensure all people practising engineering are licensed. The objectives also include initiatives to influence government policy and decision making, create and benefit from stra-

Engineers Canada is governed by a 27-member board drawn from the 12 provincial/territorial associations/order. Recent revisions to the organization's governance model gave additional seats on the board to PEO, the Ordre des ingénieurs du Québec and the Association of Professional Engineers, Geologists and Geophysicists of Alberta. PEO's appointees to the board went from three to four to, ultimately, five directors, the maximum possible number. Several advisors were also added to the board to bring various points of view, with the board now comprising 22 voting members (up from 18) and five advisors. It's expected this governance change will enable a more effective representation of all interests going forward.

PEO's current directors on the Engineers Canada board are Past President Diane Freeman, P.Eng., FEC; penultimate past president Catherine Karakatsanis, P.Eng., FEC; councillors Chris Roney, P.Eng., FEC, and David Euler, P.Eng.; and past councillor Phil Maka, P.Eng., FEC.

CEO Guay told *Engineering Dimensions* that integrating a culture of continuous improvement at Engineers Canada is very important: "Yes, we have to be satisfied with some of the things we do, but we have to be totally open to see if we can, by changing the way we do things, improve our operations. And that's what [Engineers Canada's] Synergy Task Force was about. One of the big components of synergy is about improving communication so that the constituent associations are more engaged and committed. We have a task force on communications, and the focus of that task force is to see how we can improve communications with the associations."

In addition to improving communications among stakeholders, the Synergy Task Force cited by Guay was also responsible for the recent revisions to Engineers Canada's governance structure and directed attention to ensuring the long-term financial viability of Engineers Canada. Established in 2008, the Synergy Task Force also reviewed Engineers Canada's long-term mandate. Its report, which has been submitted to the Engineers Canada board and to each of the constituent associations, was approved in May 2011.

## VISION OF THE FUTURE

"We've just gone through the renewal of our governance, but also of our strategic plan and business plan and we've sat down at least two times with the CEOs and the presidents [of the CAs] and talked about what people envision for the future," Guay says. "We've put that in writing, and then we asked each association to com-

ment and make suggestions, and we're going to ask them to vote on it at our meetings."

Guay also outlined the national body's most recent strategic objectives, which speak to the organization's entire *raison d'être*.

The first two objectives are to support the regulatory activities of constituent associations, and to augment individual associations' efforts to ensure all practising engineers are licensed.

The third objective is to influence federal government public policy and decision making, a move that parallels some of the CAs' efforts to influence their respective provincial governments. "Obviously, associations will want to have strong connections to their provincial government," Guay adds, "and we have to do the same at the federal level. That's basically our main focus—to influence the federal government's public policy and decision making."

Meanwhile, the national body's fourth strategic objective—creating and utilizing strategic partnerships and alliances—goes to the heart of Guay's emphasis on synergies and on exploiting all stakeholder resources to effect better outcomes for the Canadian engineering profession.

"For me, this fourth strategic objective is about being efficient,"

tegic partnerships and alliances, and maintain a governance structure that provides a solid framework for Engineers Canada to conduct its business."

## CANADIAN FRAMEWORK FOR LICENSURE

This project, dedicated to developing a national licensing standard, originated with PEO (see "Breaking down barriers," p. 20).

The Canadian Framework for Licensure will be a model for all Canadian engineering regulators to enhance their ability to regulate the practice of professional engineering to serve

and protect the public interest. In some ways, the initiative was inspired by federal and provincial government expectations that interprovincial barriers to trade and mobility for licensed professionals will be reduced.

The outcome of the exercise is expected to be "foundational documents" to help engineering regulators across Canada modify their enabling legislation to enhance equity, consistency, fairness and timeliness of their regulatory processes, with the intention of enhancing national and international mobility through uniform qualifications recognition,

admissions, and discipline and enforcement procedures.

To arrive at its end point, the framework task force is focusing on the essential elements of the regulated engineering profession in Canada and developing guiding principles and supporting language for each one. These elements will form the national framework the regulators can model to amend legislation or make changes to bylaws or regulations.

The guiding principles will be developed collaboratively by the engineering regulators with extensive consultation to identify best practices

Guay says. “Engineers Canada can’t do everything. We can’t be the lead on every topic and every subject in Canada when it comes to being linked to engineering. There are some things we can lead very strongly, but in some instances, such as diversity, our strategic objective is really about finding through our networks the right positioning for Engineers Canada. We are really a very small group with not a lot of resources, and in order to achieve the most out of those resources, we have to form strategic alliances with other groups.”

## 12 HEADS BETTER THAN ONE

This benefit of pooling resources and ideas for the common good of the wider engineering profession is well understood by the PEO directors now serving on the Engineers Canada board.

Phil Maka, who was appointed to the board by PEO last spring, says there is clear value in having a national organization assist each of the regulators to maintain high qualifications, standards of practice and ethics in the practice of engineering.

“Regulators use Engineers Canada as a platform to exchange ideas and, hopefully, develop uniform standards that will facilitate mobility of the engineering workforce across the nation,” Maka

says. He also cited the efficiency and practicality of having Engineers Canada handle the accreditation of undergraduate engineering programs and assess their equivalency on behalf of all the CAs.

“This is more cost effective than each regulator maintaining its own accreditation program,” he adds.

Maka believes PEO members are generally well-disposed toward Engineers Canada, despite occasional concerns about Ontario engineers being under-represented at the national body.

“There was a perception that Ontario engineers do not have the same voice at Engineers Canada on a per capita basis,” Maka says, adding that with the recent addition of two more PEO spots on the Engineers Canada board of directors, the representation question has largely been addressed.

He also says that while PEO is the largest constituent association, it should be careful not to try to exert too much influence on Engineers Canada policy initiatives. “We must listen to the other regulators and be mindful of their special needs and concerns,” Maka says. “The best policies come from ideas brought to the table by great minds across the country.”

The idea of the national body as an ideal forum for regulatory enhancement is also put forward by former director Bob Goodings, P.Eng., FEC, PEO president in 2004-2005, who served on the Engineers Canada board until 2008.

While on the board, Goodings served on the Engineers Canada Awards Committee, which has the unique opportunity to review nominations of both projects and individuals from all over Canada and in a wide range of engineering fields. The Awards Committee also decides on the recipients of substantial bursaries for professional engineers furthering their educations in engineering as well as unrelated areas.

“In reading the applications for the engineers competing for these substantial awards, we got a great look at the strength of the engineering industry and variety of professional engineers and companies across Canada,” Goodings says. “It was an eye-opener for us all, and I’ve come to believe that the country has a great resource to draw on for excellent engineering, as well as extremely important research in many fascinating fields. All this comes about through the auspices of Engineers Canada.”

and associated details. As a unifying principle, the Canadian framework aims to enable governments and engineering regulators to develop and implement their shared vision for the 21st century.

As the profession’s national body, Engineers Canada is the natural home for the licensure framework.

## FROM CONSIDERATION TO INTEGRATION

A multifaceted project, From Consideration to Integration (FC2I) was directed to helping internationally educated engineering applicants

adjust to the provincial regulators’ licensing, registration and accreditation regimes. While the need to review access to the profession for newcomers was most acute in Ontario, Quebec and British Columbia, it fell to Engineers Canada to spearhead accommodation-related projects to benefit all.

Supported by Human Resources and Skills Development Canada, FC2I led to a number of initiatives to assist the CAs in dealing with internationally educated applicants.

Among the most significant outcomes of FC2I are the competency-

based assessment effort (see below), an International Institutions and Degrees Database and a language benchmarking project, which is a language assessment test to help international applicants demonstrate proficiency in English or French.

In addition, FC2I has resulted in development of an Internationally Educated Graduate (IEG) roadmap to engineering in Canada, which looked at enhancing the clarity and accessibility of information for professionals planning to immigrate to Canada to participate in the engineering profession.

## ADDITIONAL CHANNELS

Over and above national programs, guidelines, policies and research studies, there are additional informal channels through which the CAs and Engineers Canada work to enhance licensing and regulation of engineering. PEO officials regularly meet with their counterparts from across the country under the direction of Engineers Canada to discuss common concerns. PEO Deputy Registrar, Regulatory Compliance Linda Latham, P.Eng., has attended a meeting of discipline and enforcement officials to share lessons learned and provide information on the recent Ontario *Professional Engineers Act* changes relating to discipline and enforcement, and special projects in her area.

Similarly, Michael Price, P.Eng., FEC, PEO's deputy registrar, licensing and finance, takes part in the Engineers Canada National Admissions Officials Group, which meets in person or via teleconference, to update licensing and registration staff about issues relating to admission and application.

Marie Carter, P.Eng., FEC, chief operating officer, Engineers Canada, told *Engineering Dimensions* the national body has always existed to help the provincial regulators carry out their respective, but inter-related mandates.



Engineers Canada's 2011-2012 board of directors includes (front row, left to right) Margaret Li, P.Eng., FEC; Catherine Karakatsanis, P.Eng., FEC (PEO representative); Louise Quesnel, ing., FIC; Diane Freeman, P.Eng., FEC (PEO representative); and Chantal Guay, ing., P.Eng. (CEO of Engineers Canada).

Second row: Andrew McLeod, FEC (Hon.); Paul Amyotte, P.Eng., FEC; Sid Zerbo, ing., FIC; Zaki Ghavitian, ing., FIC; David Coleman, P.Eng.; Brent Smith, P.Eng., FEC (Engineers Canada president); Russ Kinghorn, P.Eng., FEC; Larry Staples, P.Eng., FEC; Jim Beckett, P.Eng., FEC; David Euler, P.Eng., FEC (PEO representative); Darrell Fisher, P.Eng., FEC; Chris Roney, P.Eng., BDS, FEC (PEO representative); and Cord Hamilton, P.Eng. Back row, Chris Zinck, P.Eng., FEC; Lloyd Henderson, P.Eng., FEC; Digvir Jayas, P.Eng., FEC; Ken From, P.Eng., FEC; Michael Smith, P.Eng., FEC; Phil Maka, P.Eng., FEC (PEO representative); and Dick Myers, P.Eng., FEC. Absent from the photo: René Rochette, ing., FIC; and Sandra Gwozdz, ing., FIC.

"Engineers Canada represents the regulators' interests to the federal government and internationally with one voice," Carter says. "In fact, Engineers Canada's involvement helps the federal government to initiate dialogue in areas that would

Says Engineers Canada CEO Chantal Guay, P.Eng., ing.: "FC21 has come to an end, but a lot of the projects that we are now doing continue to develop tools with the associations so they become better at assessing the credentials of applicants who knock on the door to get their engineering licence."

## COMPETENCY-BASED ASSESSMENT

Flowing in part from FC21, Engineers Canada in December 2008 established the Alternative Methods of Licensure project to study new paths to licensing that would clarify the Canadian

licensing process and make it more consistent and objective.

Earlier research and consultation on integrating international engineering graduates into the Canadian engineering profession had uncovered a need to streamline the process of assessing applicants' engineering work experience. A framework for a competency-based work experience assessment and an initial set of basic engineering competencies were identified and accepted by all the CAs.

Engineers Canada says the project will develop competency-based tools and processes to assess engineering

work experience. Key criteria for the project include the need to ensure that only qualified individuals are permitted to practise professional engineering, the assessment method is open and transparent, specific criteria are provided assessors to make objective assessments on an applicant's having met engineering work experience requirements, the nature of required information for applicants to demonstrate meeting the work experience requirement is clarified, and opportunities are provided for self-assessment by applicants.

not normally be accessible to them, such as provincial jurisdiction regarding licensure.”

Carter believes PEO and Engineers Canada have enjoyed a healthy relationship for a number of years, working together with the other CAs “on a number of projects that have led to improvements in various areas, including licensing of international engineering graduates, inter-association mobility and government relations.”

When asked for examples of successful PEO-Engineers Canada collaboration, Carter had a ready list. “PEO and our other constituent associations have collectively worked on a number of processes that have resulted in better practices for the entire profession,” she says. “The results can be seen in the outcomes of the projects related to the From Consideration to Integration project [for internationally educated engineering applicants], like the International Institutions and Degrees Database. PEO representatives are helping to develop a competency-based assessment system for engineering experience and have been involved in the language benchmarking project.

“Engineers Canada facilitates the constituent associations working together toward improving their practices. The Canadian Framework for Licensure is another excellent example of an ongoing project being carried out collectively by our constituent associations, facilitated by Engineers Canada. This

project is led by an advisory committee presided over by PEO CEO and Registrar Kim Allen.”

Because the national body takes the lead in collaborative projects of mutual benefit to all the CAs, the CAs can realize cost savings, increased efficiencies and sometimes the offer of additional services for their members. Certain insurance programs coordinated through Engineers Canada, including commercial crime and corporate identity protection, have meant cost savings of up to \$115,000 annually for PEO.

But it is likely in the areas not measured in dollars that Engineers Canada can best deliver the goods, such as in fostering a collaborative approach to decision making and opportunities to share best practices in licensing and regulation. CEO Guay says she believes there is also room for the larger associations, especially PEO, to show their regulatory mettle.

“Our main role is to facilitate exchange of information and best practices between associations, so basically all my staff is in relations with similar positions with each association,” Guay says. “I would say that with PEO, being such a large association with a lot of initiatives already on the go, we try to develop synergy with that, in the sense that, if one of the constituent associations has a great idea on a particular topic, what we try to do is make sure it is shared, so everybody can learn from it. That’s largely what we’re about.” Σ

## PUBLIC INFRASTRUCTURE ENGINEERING VULNERABILITY COMMITTEE

Established in 2007 to assess the exposure of Canada’s public infrastructure to the harmful impact of climate change, the Public Infrastructure Engineering Vulnerability Committee (PIEVC) is one of Engineers Canada’s most timely research projects.

Co-funded by Natural Resources Canada, PIEVC has made presentations to engineering and public policy groups outlining its findings on the vulnerability of Canada’s public infrastructure (see *Engineering Dimensions*, March/April 2011, p. 14). PIEVC has also been vocal about the engineering profession’s role in developing adaptation strategies to help communities respond to climate change and its impact on bridges, roadways, buildings, power distribution systems and assorted public infrastructure (see *Engineering Dimensions*, May/June 2011, p. 18).

The results of pilot projects assessing infrastructure across the country are being used to recommend reviews of infrastructure codes and standards and engineering practices to enable engineers to design, operate, maintain and rehabilitate existing and future infrastructure to account for future changes in climate. The case studies

will also be used in workshops to train engineers on the principles and applications of infrastructure climate risk assessment.

PEO Councillor and Engineers Canada Director David Euler, P.Eng., FEC, chair of PIEVC, recently reported on progress of the initiative to the board. In addition to having completed 16 case studies, the committee is nearing completion of a new assessment protocol that captures advances in climate change information and risk estimation.

Euler reported that a number of organizations, including the Greater Toronto Airports Authority (GTAA) and the Ontario environment ministry, have expressed interest in funding case studies using the PIEVC protocol to assess climate change risks to specific types of public infrastructure.

Word of the PIEVC protocol is also spreading throughout North America, with a presentation to present PIEVC findings scheduled for October at a Clean Air Partnership seminar on high rise building climate change adaptation. The protocol was also on the agenda this fall at environmental, public safety, risk reduction and transportation conferences throughout North America.