

Message from the Chair



We are at the beginning of a brand new year and we are in full gear to make it another successful year for the Willowdale-Thornhill Professional Engineers Ontario (PEO) Chapter.

We started 2007 by welcoming Renata Sadowska, P.Eng., as our new secretary. She is handling her new responsibilities with the utmost professionalism and dedication.

Volunteerism, as you will read again in this newsletter, is an important word when it comes to the day-to-day and general operations of the PEO.

Incredibly, there are approximately 800 volunteers running this organization, in addition to the paid staff at PEO headquarters. This represents about 1 per cent of the total members of PEO working to run the organization.

A fine example of a devoted volunteer was former PEO President Gordon Sterling, P.Eng., a loyal member of the Willowdale-Thornhill Chapter. He spent a lifetime of voluntary involvement, starting from working

at the chapter level, all the way up to the presidency of PEO. Mr. Sterling passed away unexpectedly at the beginning of this year – a big loss to those of us who knew him.

We are still pressing forward with our agenda. The Government Liaison Program (GLP) is moving forward and we have our committee headed by Nanda Lwin, P.Eng. We have organized ourselves further by creating committees in programs and activities, education, certificate presentations, and communications.

But we still need to hear from you. Are there any problems affecting you in your engineering practice? Do you have any concerns about the future of professional engineers in Ontario? Do you think government is doing enough to stop global warming? Are you concerned about the future of your children?

Join our chapter and talk to us. Together we can play our part in producing a positive outcome for all.

I wish you a prosperous and successful 2007.

Noubar Takessian, P.Eng.
Chair, Willowdale-Thornhill PEO Chapter

Notice of Annual General Meeting

When: 6:30 p.m., Tuesday, March 6, 2007

Where: Holiday Inn, 7095 Woodbine Avenue, Markham, Ontario (Phone: 905-474-0444)

What: Annual General Meeting (AGM) to elect an Executive.

If you plan to attend, please RSVP to Renata Sadowska at wt.chapter@rogers.com by March 1, 2007.

Call for Executive Nominations, Annual General Meeting

Please email Willowdale-Thornhill PEO Chapter Secretary Renata Sadowska at wt.chapter@rogers.com if you want to nominate a member for a position on the Executive of the chapter. All Executive positions are voluntary with no direct monetary compensation, except for specific out-of-pocket expenses. The Executive meets once a month and participates in events and functions of the Willowdale-Thornhill PEO Chapter.

Help Wanted!

By Mark Friedberg, P.Eng.

Wikipedia, the online encyclopedia, defines volunteerism as “the willingness of people to work on behalf of others without the expectation of pay or other tangible gain.” It may be done for altruistic reasons, for example charity, as a hobby, community service or vocation, or for the purpose of gaining experience.

For many years, Willowdale-Thornhill Professional Engineers Ontario (PEO) Chapter executives have served your interests as your interface to PEO. They have provided our chapter with programs and events. Each person’s reasons for volunteering are different, but several Executives have been committed enough to your chapter to remain on the Board of Directors of the chapter for many years. However, all organizations need to be refreshed through new ideas and new people. From chapter Executives to committee volunteers, fresh faces keep an organization dynamic and relevant to our

chapter members. New volunteers are also necessary to fill the spaces when long-serving executives retire from their positions.

The title of this article is “Help Wanted!” but it could also have been titled “A Call to Duty”. We will soon be holding our Annual General Meeting, where we set the direction for the year. At the meeting, we encourage you to volunteer your services for the upcoming year.

What will your reasons for volunteering be? They could include a desire to help your profession, share your experiences and skills, gain leadership experience, or add to an already impressive resume. Whatever your reasons for volunteering are, you will find it to be a rewarding experience. I know I have.

Mark Friedberg, P.Eng., is Treasurer of the Willowdale-Thornhill PEO Chapter.

Public Awareness Wanted!

By Changiz Sadr, P.Eng.

When I came to Canada about 14 years ago and settled in Willowdale, I had a different view of engineering. Engineering was one of the most prestigious professions in my home country, competing with medicine. I was under that same impression when I came to Canada, thinking that it was just about the same here or even better. I remember talking to my immigration lawyer prior to my interview with a Canadian immigration officer. He told me that with my education and experience as an engineer, I would definitely find a good job soon after I land in Canada.

But that was far from reality. It took me more than two years to find a job in my own field, not taking into consideration the recession at that time. In other words, it took so long for me, a professional engineer with

extensive experience, to find a job. Why? I knew several engineers who could not stand the living conditions here and returned to their home countries. I stayed, not because I was in a good financial state or could have afforded the wait, but because I believed in my background as an engineer and the power and value of engineering.

At first, I thought that this struggle to find an engineering job only applied to foreign-trained engineers, but later on I realized that even new Canadian graduates faced the same issue. How many Canadian engineering graduates do you know who do not work in their own fields? I know many.

So, the issue here is not a matter of immigration or lack of Canadian experience. This notion might make some people dis-

agree and shake their heads, thinking that this is exactly what they went through when they came to Canada. But the issue is much greater and much deeper.

The real issue at hand is the public image of engineering in Canada. More than 80 per cent (possibly up to 90 per cent) of our high school students do not have any idea about engineering and its contribution to society. And look at the job postings these days: How many engineering positions have you seen that ask for equivalent experience and not necessarily engineering experience? Employers are not aware of the value of engineering, and the majority of them have never heard of Professional Engineers Ontario (PEO) and the *Professional Engineers Act*.

The Ontario Society of Professional Engi-

A Six Sigma Overview

By Michael Marr, P.Eng., 6s BB

Six Sigma (6s) is a statistical measure of the performance of a process or product characteristic compared to a customer specification level. A 6s process results in no more than 3.4 defects or errors per million opportunities. Few processes achieve this level of performance and consequently most organizations endure high costs due to poor quality. Most company processes produce upwards of 6,000 defects per million opportunities (a 4s level of performance), which is simply not good enough in today's competitive environment where customer demands increase exponentially. To illustrate the difference between a 4s and a 6s process, consider the following examples:

- If electricity worked at 4s, there would be no lights for about one hour per week. If it worked at 6s, there would be no lights for about two minutes per year.
- If your car operated at 4s, there would be 37 repair minutes for every 100 hours of operation. If it worked at 6s, that statistic would fall to 1.2 seconds of repair per 100 hours of operation.
- If pharmacies operated at 4s, there would be 200,000 wrong drug prescrip-

tions each year. If at 6s, there would be 68 wrong prescriptions per year.

neers (OSPE) is mandated to lobby the government and the private sector on issues pertaining to the engineering profession and work on improving public awareness. Are we on the right track?

We need to establish a group or committee to improve public awareness of the engineering profession. Chapters may have similar programs to communicate with high schools and conduct Engineering Week activities and the like, but they are clearly not effective. We need to form a committee and gather all the chapters together and plan on an on-going basis and not just for one week a year. All comments are welcome!

Changiz Sadr, P.Eng., is the Vice-Chair of the Willowdale-Thornhill PEO Chapter. He can be reached at csadr@yahoo.com.

To achieve a 6s level of performance, a systematic, process-based methodology and project framework must be employed. The 6s statistical methods must operate within a defined deployment structure, which involves the development of personnel at various levels within the organization to operate and lead the 6s implementation program.

In recent years, Motorola, Honeywell, and General Electric have documented savings in the order of 1.2 per cent to 4.5 per cent of revenue directly attributable to their 6s programs. The proof is in the balance book. A concept with more than 200 years of history, 6s continues to evolve as a powerful tool supporting business excellence.

An expanded version of this article appears on the Internet at www.willowdalethornhill.peo.on.ca.

Michael Marr, P.Eng., can be reached at michael.marr@sympatico.ca.



The Chronicle

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ENGINEERING NOTES by Nanda Lwin, P.Eng.

Engineering a prestigious profession?

Perhaps engineering is held in much higher esteem than we all thought. Just when you thought the talk would never end among engineers about the prestige of the profession, out comes a U.S. survey that may be of some comfort.

While the results fall short of setting the world on fire, a recent Harris Interactive study shows that the profession placed 10th out of 23 occupations in terms of prestige. Out of the 1,020 respondents, 34 per cent described engineering as having "very great prestige," 35 per cent "considerable prestige," 26 per cent "some prestige," while 4 per cent said "hardly any prestige at all."

The nine other professions to outdo engineering in the "very great prestige" category are firefighters (63 per cent), doctors (58 per cent), nurses (55 per cent), scientists (54 per cent), teachers (52 per cent), military officers (51 per cent), police officers (43 per cent), clergy (40 per cent), and farmers (36 per cent). Architects ranked 13th with 27 per cent, lawyers placed 15th with 21 per cent while accountants came in at 17th place with 17 per cent.

The lowest ratings for "very great prestige": real estate brokers (6 per cent), stockbrokers (11 per cent), business executives (11 per cent), actors (12 per cent), union leaders (12 per cent), journalists (16 per cent) and bankers (17 per cent).

SCIENCE FAIR, ANYONE? Mario Boetto, P.Eng., the education guru for the Willowdale-Thornhill Chapter and Seneca College's Electrical Engineering Technology chair, emailed to remind me of the fifth annual York Region Sci-Tech Fair, to be held on Saturday, April 14, 2007 at Seneca College from 8:30 a.m. to 1:00 p.m.

The fair showcases projects created by students from grades 7 to 12 from schools all across York Region. The projects fall into various categories, such as Biotechnology, Earth and Environmental Sciences, Engineering and Computer Sciences, Health Science, Life Science, and Physical and Mathematical Sciences.

Those interested in volunteering as judges are encouraged to fill out the form at <http://yrstf.senecac.on.ca/2007/judges.php>. A workshop will be offered to all first-time judges to review the judging process, prior to the fair. However, the workshop is not mandatory, and it can be arranged so that an e-mail with the pertinent information can be sent to you.

Nanda Lwin, P.Eng., is a professor of civil engineering technology at Seneca College. He is also a journalist and the author of several books.



East Central Regional 2007 Council Election Insert

The following are messages received from candidates for which members in the East Central Region may vote. Please be advised that not all candidates have chosen to provide these additional messages. Candidate publicity also appears in the January/February 2007 issue of *Engineering Dimensions*, will accompany the ballots, and is available from the PEO website at www.peo.on.ca.

President-Elect

Open Letter to All Chapter Members from Dave Adams, P.Eng.

PEO can take its mind off continual fee increases because of three consecutive million-dollar-plus annual surpluses, and get on with more intensive regulation and prosecution of offenders.

We have much bigger fish to fry with all the industrial job losses in the news each week!

We need leadership in PEO to champion new technologies and innovation, not a cop-out from those who say we are only a regulator. We can partner with OSPE to proclaim to industry and government that natural resources are vulnerable to depletion and are spread unevenly, and that Ontario engineers need their support to generate jobs from high potential technologies, innovation and the upgrading of facilities, broadening our nation's long-term competitive advantages, utilizing skills not losing them.

Coupled with this offensive, we must ensure that through our accreditation process graduates are capable of practising in new areas and have undergone a structured, measured internship.

Furthermore, we must reduce single-engineer Certificate of Authorization firm fees by 25 per cent and place others on a sliding scale, based on number of employees, encouraging specialists to acquire Cs of A and jump in with proposals to upgrade technologies.

We bemoan the fact we have too few female engineers without addressing their basic interests with engineering courses focused on improvement of the human condition and associated technologies.

PEO needs informed, up-to-date knowledgeable volunteers. I propose we institute an annual rebate of 25 per cent of membership fees for all Chapter Executives and PEO committee members.

These are fresh ideas to modernize our profession and lead it forward in a more business-like fashion, regulating, educating, including and inspiring engineers to perform profitable, available, challenging work for themselves and others.

The task begins with your vote!
Please email: daveadams@bmts.com.
Thank you.

Open Letter to All Chapter Members from Nick Monsour, P.Eng.

If elected as President-elect, some of my goals would be to continue to work to:

1. Increase the number of engineering graduates joining PEO as EITs and eventually as licensed engineers.
2. Support the accommodation plan to purchase our own building, for more visibility as a profession and good economics. It may allow engineering-related groups to be tenants.
3. Organize a Volunteer Professional Development and Competence Assurance Committee for EITs and licensed engineers, as a regulatory goal.
4. Re-organize meetings with other regulated professions, which had occurred some time previously. What a way to share ideas.
5. Continue to improve relationships and contacts with appropriate provincial government contacts. Update our Act and Regulation, as necessary.
6. We should consider shortening the appropriate experience requirement for licensing from four years to two years, with the educational training.
7. Support the volunteers and staff work that is being done on behalf of our profession.
8. Continue strong support for the chapters.

Open Letter to All Chapter Members from Maximus Perera, P.Eng., M.A.Sc., M.B.A.

Hello Chapter Members:

PEO collects \$17 million annually and about \$500,000 is disbursed to the chapters. Some of the chapters are eager to expand the scope of their activities to support the regulatory functions of PEO. Although the role and responsibilities of the chapters were approved by Council in 2003, they have yet to be incorporated into the regulatory framework.

If the chapters are to act as a source for Council, PEO needs to allocate resources for training. The regulatory reach of PEO can be extended by funding good business plans that include worthwhile projects aligned with the goals of the association, like mentoring, networking, reporting enforcement violations, and keeping tabs on OHSA infractions.

We need chapters to remain connected with the Government Liaison Program across Ontario. It is important that PEO keep an

open channel with the Ontario government. The chapters are in the best position to provide that link at the local level.

Our members and potential applicants to PEO are questioning the value of the licence. I have outlined some ways of enhancing the value of our licence in my platform to be published in *Engineering Dimensions*, January/February 2007. However, chapters should be encouraged to engage in this dialogue in a face-to-face exchange. To assist you in this discussion, I published an article in *Engineering Dimensions* titled "Licensure, What is in it for ME?," in September/October 2006.

Talking to both CEAB and non-CEAB graduates, there appears to be a need for mentoring. The chapters could provide this valuable service to PEO and the community. Some of our members are delivering this service in an informal manner, and I am told that some chapters are on the threshold of implementing mentoring programs. We should support such initiatives.

<http://ca.geocities.com/mhperera@rogers.com/>
Please vote.

Vice President

Open Letter to All Chapter Members from Diane Freeman, P.Eng.

It has been an honour to represent Western Region on Council, Executive and Regional Councillors Committee (RCC). Over the past four years, my involvement with PEO has deepened and I have completed the following for the membership:

- chaired RCC for the past two years. This committee provides a vital link between chapters and Council and, among other tasks, manages the annual Chapter Allotment budget. As RCC chair, I have attended chapter functions in other regions in Ontario;
- further developed Council's Government Liaison Program initiative and rolled it out to chapters;
- represented PEO as Vice President to external groups, with the expressed goal of increasing the relevance of the P.Eng. licence;
- chaired Western Region Congresses, where I provided timely, detailed overviews of issues facing PEO Council and information to chapters regarding opportunities for members in PEO committees;
- attended chapter events throughout Western Region.

I believe in succession planning for PEO. I am stepping down as Regional Councillor to allow others from Western Region to step up and serve on Council as a Regional Councillor. I believe in corporate memory and even though I was recently elected as a City of Waterloo Councillor, I want to continue to serve members of Professional Engineers Ontario as Vice President. I will work closely with members, senior staff, executive and other members of Council to continue to strengthen the roles and responsibilities of chapters in PEO governance, in particular in the areas of policy development and succession planning. I will work diligently with Council towards PEO's goal of regulatory excellence and to reinforce effective relationships with the Ontario Society of Professional Engineers and the Canadian

Council of Professional Engineers. I trust my record of commitment to bettering the engineering profession speaks for itself. I seek your vote to continue my efforts.

Issues Facing the Profession

Professional Engineers Ontario needs inspirational leadership with vision, sensitivity, energy, objectivity and a steadfast commitment to its success.

Issues are:

- **Inadequate Licensing of Engineering Professionals**
Ontario law requires the practice of medicine and law to be executed by licensed practitioners; however, such is not the case for engineering work. One hundred per cent of doctors and lawyers are licensed, while in engineering less than 30 per cent of engineers with a P.Eng. have a licence with exclusive rights to practise.

This begs the question: Are engineers less important to society than doctors and lawyers?

- **P.Eng. Designation**
Do you know that only a reported 13 per cent of new Ontario engineering graduates obtain a licence to practise engineering in Ontario? When PEO's very survival depends on membership, it is incumbent on the profession to demonstrate to educational institutions, employers, the public and new graduates the value and importance of the P.Eng. designation.
- **Undermining of PEO Regulatory Function**
External certifications refer to the move by various provincial ministries to introduce mandatory requirements that professional engineers must meet before being allowed to submit reports or designs.

The recent PEO legal challenge to have Bill 124/BRRAG revoked is an attempt to preserve self-regulation.

- **Public Perception of our Profession**
The public wants to know, specifically, what area of competence a professional engineer possesses, in order to perform certain work.
In order to meet the public's deep concern, it may be necessary for PEO to establish a knowledge base system.
- **Public Responsibility of the Profession**
Professional engineers have a responsibility to speak out on issues that impact the lives of people, such as clean water and air, energy, sustainable environment, infrastructure.

ENGINEERS MUST BE SEEN AS A CARING AND
KNOWLEDGEABLE PROFESSION AND HEARD AS A
RESPONSIBLE AUTHORITY.

Ken Lopez, M.A.Sc., P.Eng.

Councillor-at-Large

Open Letter to All Chapter Members from Peter Michael DeVita, M.A.Sc., M.B.A., P.Eng.

Email: peterd@devita.com

Website: www.devita.com/peo

Phone: 905-784-4402

“A thriving Engineering Profession is essential for the economic prosperity of our people.”

Achieving this nirvana requires a coordinated effort by our key engineering organizations.

We have the legal trappings of a “closed” profession but most of it is now effectively open.

Without exclusive rights to practise for all engineering practices, PEO cannot carry out its prime responsibility.

Furthermore, without exclusive rights, engineers are de-focused from their practice. In short, it is not “thriving engineering” and Canadians are losing the value of these engineers, particularly in high tech.

“...we are not understood and people do not know our worth”: words from 100 years ago.

Engineering is here again. Engineers today need jobs with real opportunity to practise engineering.

I believe there are three key strategies that we need to follow:

1. Ensure that all P.Engs have exclusive rights to practise so that only P.Engs are permitted to practise engineering;
2. Enhance the profession’s abilities to self-promote with politicians and the public;
3. Focus Canadian engineering on innovation and invention—the key added value when “investing” in an engineer.

Three different bodies, PEO, OSPE and EIC (with affiliates)—each has one of these as a key function. To be successful, these three bodies must work cooperatively with the single purpose of enhancing the profession, so that both the public interest and the private interests of engineers are served. Having served with both OSPE and PEO, I am ideally positioned to foster this cooperation.

Chapters play an important role in all these areas as links to engineers “on the front lines”.

I ask for your support to move the profession forward with cooperating, engineering professional organizations.

Issues Facing the Profession

Since 1988, I have been involved with Brampton Chapter and have now served eight years on Council. An issue that has dragged on for years is the C of A. In 2006, I resigned my C of A in open Council to protest the latest fee increase, which was directly contrary to what PEO had agreed to do. Subsequently, the C of A has been reworked, and when finally approved will go part way towards making it a reasonable cost feature. Soon, it will be automatic at P.Eng. renewal time for a \$35 fee. Unfortunately, we still have no system to license the so-called industrial exceptions, which cry out for control.

Selecting a President for PEO has never been easy. It’s a difficult, time-consuming job, for which few have sufficient time. The Regulation prevented anyone who had been President in the last five years from running. An amendment at the September Council proposed that the President be required to have been on Council in the last five years! My belief is that there may well be better Presidents out there, and there should be no restrictions on their candidacy. My motion to the November Council on this was approved.

My other motion to November Council to enable any Chapter Chair to present motions to Council was amended so that any MEMBER could bring a motion to Council. It passed. Sure, there

is a procedure involved, but I believe PEO’s strength is interested chapters and members. I have supported chapter initiatives, including difficult ones, such as the Northern Regional Office, where each contact ended up costing us about \$230. Long distance calls plus Express-post might be a bargain.

My knowledge of the system helps me move things along.

Your vote for me will enable me to continue.

Denis Dixon, P.Eng., for Councillor-at-Large

East Central Region Councillor

Professional Engineering in the 21st Century By Capt. Corneliu Chisu, CD, M.Eng., P.Eng.

<http://tinyurl.com/tckud>

- **Providing a discipline specific licence**

The current P.Eng. licence allows the practice of professional engineering without defining the areas of practice. PEO grants a “one size fits all” generic licence to anyone meeting the minimum entry requirements irrespective of the discipline of the engineering degree they hold. This would be like an Ontario Drivers Licence where anyone is given the right to drive any class of vehicles by meeting just a minimum of driving skill requirements for a licence. Obviously, the protection and safety of the public would not be well served. Similarly, the Ontario government and society would be more reassured if the engineering licence would be “discipline specific”. This would enhance the value of the licence to the public and increase the confidence of employers.

- **Advice to Governments**

By working with the Ontario government proactively, PEO can provide valuable input early in the policy development process. By doing this, the government will make sound decisions and the engineering profession will benefit by the increased confidence of the public. This ultimately will enhance the value of the engineering licence.

- **Engineering Employment**

In order to enhance the value of the engineering licence for employment, PEO must communicate to the government, industry and the public the substantial benefits of employing licensed engineers versus “qualified persons” in engineering positions. This will serve both the public and members’ interest.

- **Chapters**

The role of the Chapters must be well defined in the PE Act and Regulations. The Chapters are an invaluable source of new ideas for the PEO Council. PEO needs to dedicate more attention to Chapters, which are the connection between the PEO Council and the grass-root members.

Open Letter to All Chapter Members from Jeff Mark, P.Eng.

My main goal when I ran for election as an East Central Region Councillor was to improve communications, both within and without PEO. The status of engineers and engineering has been eroding over time and will continue to erode if we do not make people

aware of the value of engineers and engineering. The communications that are required will involve everyone in the profession.

There has to be better communications between PEO Council and staff and the members and between chapters.

There has to be better communications with the education system at all levels: elementary schools, high schools and universities, so that students see the advantages of becoming a licensed engineer.

There has to be better communications with the EITs, who are an underutilized resource. They need to be involved in PEO activities, so that they can see the benefits of being licensed.

There has to be better communications with OSPE, both at the headquarters level and at the chapters' level, so that the efforts of both to educate the public about engineering are coordinated and efficient.

There has to be better communications between PEO and the federal and provincial politicians and senior bureaucrats, so that they are aware of the benefits of engineering and how we can work together.

There has to be better communications with the public, so that they are aware of the value of engineering and how we affect society.

There has been progress in all of the above areas, but more has to be done. As an East Central Region Councillor, I continue to push for better communications at PEO headquarters. As promised in the last campaign, I have attended as many of the chapter executive meetings as possible, to facilitate communications between PEO headquarters and the chapters and between chapters in East Central Region.