

Use of “consulting engineers”

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The Gazette article “What’s in a name? PEO’s restrictions on using engineering terms in business and corporate names” in the January/February 2017 issue of *Engineering Dimensions* (p. 22) was very informative.

However, it appears that one engineering term was overlooked in the article: “consulting engineers.”

My company was federally incorporated in 1978 while we were still in Quebec. We moved to Ottawa in 1983 and received our Certificate of Authorization from PEO on December 5, 1983. In all this time, we have referred to ourselves as “consulting engineers.” In fact, for a period of time, my company was a member of Consulting Engineers of Ontario.

Last week, while reading my company’s PEO profile for the first time in more years than I can remember, I noted a box that said “Permission to use ‘Consulting Engineers,’” to which the answer was “No.” Frankly, I was stunned as I had no knowledge that I needed PEO’s permission to use this term to describe my business activities even though I have held a consulting engineer designation for many years.

Digging a little deeper, I found the application form for *Permission to Use “Consulting Engineers” or a Variation Approved by Council*, and have since sent it along with the fee to PEO.

Perhaps this needs to be better communicated to the association’s members.

Comply and move on

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At the Algo Centre Mall collapse inquiry, the inquiry commissioner, based on information presented, noted that PEO has a deficiency in that PEO has no way of knowing anything about those it licenses as far as being competent and “up to date,” and that it should institute a program to eliminate this deficiency. The Ontario government believes that PEO needs to act and institute such a program.

The concept of PEO intruding into our professional lives has not been well received by members. Almost all practising licensed engineers do, in fact, engage in improving their knowledge and expertise in their fields of practice through all sorts of formal and informal activities.

The political reality is that the government expects PEO to satisfy the commissioner’s recommendation or the government could step in and force a system upon PEO, or worse, operate a system with government bureaucrats. PEO’s task force on CPD has developed a simple system to gather data from members concerning CPD activities and coordinating it with practice risk to provide some simple guidance to members. This PEAK system has no component to value test CPD activities, which would be very intrusive to members and costly.

If the PEAK program can demonstrate that PEO does monitor the competencies of its members, then the government will accept this as satisfying the commissioner’s recommendation. So I suggest that members simply comply with the PEAK program and move on. Continued resistance will only cause greater problems for members in the future.

Correction: In “Shortlist spot a boost for profession’s diversity objectives” on page 19 of the January/February 2017 issue, we accidentally spelled Viola Desmond’s name incorrectly. We apologize for the error.

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Life as an engineer

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"P.Eng." is obsolete. I hope that catches your attention.

Our formal organizations wring their hands for years over things like the industrial exception, yet thousands of us earn or earned our livings working in what is clearly recognizable as that very industrial exception. Our professional handcuffs, which we call licensing and regulations, drift farther and farther away from reality.

Consider: Economists everywhere deplore professional licensing, with its exclusionary provisions intended to keep out enough candidates to maintain a professional monopoly, high wages, and special privileges. Examples: engineering, medicine.

Society is trying, with limited success, to cope with a wave or megatrend comprising vast technologies whose rates of change of change (ROCOC)

are far outstripping the ability of human beings to keep up. Examples: computerization, networking, digitization.

Newish terms like "nano degree" and "unbundling education" profoundly challenge our traditional view of a university education that equips us for life to do "engineering" using "engineering principles" (whatever those are, and which everyone admits have no definition).

Many of us are familiar with this unstable career path and, even though we are titled "BSc electronics" (mine) or some such, could never have been licensed or accredited as "professional engineers." Yet we have had satisfying and productive work for 30 or 40 years. Example: I have totally lost track of the number of my "micro careers"—Five? 10? I don't know, but they spanned everything from civil to thermodynamics to sociology to the writing of books. (That said, let it be acknowledged that my basic engineering with its civil, mechanical, etc. components has been an enormous thinking helper through it all.)

Our professional associations are not recognizing or coping with this 20th/21st centuries phenomenon. Perhaps we could reboot by taking note of a wise comment by one professor at U of A, who said: "You can learn engineering after you graduate. You're here to learn how to think."

Interested engineers would profit from reading "Learning and Earning," a short "special report" in *The Economist* from January 14.

Build locally

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The latest *Engineering Dimensions* included the article

"Engineers still among leaders in meeting diversity challenge" and provided statistics regarding the number of international engineers coming to Canada over the past 20 years with a flattening over the past decade (January/February 2017, p. 30). I believe the reason for this flattening lies not in perceived barriers to entry in Canada but in the juxtaposition of the employment opportunity trade-offs of coming to Canada and a related, disconcerting trend in large engineering companies.

For a rational individual, the choice to leave one's home country and attempt to restart in another country is partially predicated on the perception of opportunities in the home country versus the barriers to entry of an adopted country and the lifestyle you can build there. If you are educated and opportunities to utilize your education exist locally, there is reduced reason to leave, so why go? This reduced migration dovetails with the ongoing trend of large Canadian engineering companies to outsource engineering to eastern countries, such as China and India. The explanation has been that clients demand high quality, low-cost engineering, so if overseas education is seen as equivalent and has suitable output quality with

today's "connectedness," the engineering output can be produced in the lower-cost environment.

Essentially, these engineering companies are saying that engineering is a commodity that can be managed in one country and produced in another. Unfortunately, engineers are not doing themselves any favours with this down-selling approach and should be touting the added value of our knowledge to everyone's lifestyle and options. The unintended consequence is that, while the client may be happy with the lower-cost outcome if suitably experienced engineers oversee the output, it ultimately results in a hollowing out of the engineering capability of the origin country in favour of exporting this expertise to the supporting country. I perceive this as a very short-sighted business decision with a negative feedback loop, ending, ultimately, in the demise of the home country capability and the migration of business to these alternate centres. It is quite likely that during this latest downturn in the resource industry that the loss of engineering positions has been magnified by this effect in an effort to stay in business.

When the uptick occurs, it will not likely result in increases in engineering employment since the jobs have already been shifted. The senior engineers who are well placed to ride this wave will ultimately retire and the graduate engineers who normally would be trained under them will find they do not have the capability or experience to replace them because this training has been outsourced.

This is a ripple effect that I believe will only magnify itself over the years, driving engineering capability into specialty niches with fewer and fewer participants. While countries see high tech as the future and coding may be the trend *de jour*, you have nothing if you cannot locally build the intellectual property to support ongoing industry and their employees into the future.