

Continuing Competency for
Professionals –
How Do Engineers and
Geoscientists Measure Up :
A Look at Other Professions
And Jurisdictions

Speech to APEGBC
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I'm here today to talk about attributes of professions, what other professions do to ensure their members attain and maintain the highest levels of expertise, and then to take a closer look at engineering and geoscience, especially at continuing competency programs. Your association is examining mandatory professional competency requirements - you have likely seen the guidelines out for review - and some of you may have mixed feelings about it - you are not alone, but I hope this overview of what is happening elsewhere will inform your thinking on the issue.

I have worked with your sister organization in Ontario, the Ontario Society of Professional Engineers on continuing competency, an issue they have looked at, like many of your colleagues across North America. OSPE did a survey of their members and I suspect what they found is likely to be similar to your members' feelings.

With good reason, they are proud of their professional designation and want to maintain it. It is part of who they are.

Some think training to ensure continuing competency should be **required** to maintain the P. Eng designation - other do not agree - voluntary, yes, compulsory, no. Many are quite interested in a broad variety of educational opportunities to enhance their skills as an engineer and more generally, their skills as a professional in a rapidly changing environment. And a lot are dissatisfied -not all- but a lot are dissatisfied with their income, dissatisfied with their prospects for advancement, and dissatisfied with the lack of respect accorded them and this honourable profession in their workplace and in their community. Sound familiar?

There are bright lights.

I think it encouraging that there is a move towards quality or qualifications based selection in more and more jurisdictions. Too often the lowest bidder, who may very well be the best bidder, but may not be - wins. Qualifications based selection means - selection is based on technical competence, ability, and experience - it is not the lowest bidder, but best quality bidder. This is required in a number of public sector bodies - Quebec, Toronto, and it's mandated in numerous states in the U.S.

To me, a profession is not about being the lowest cost bidder - value IS important - but excellence and quality are more important. Would you select your doctor or your lawyer on price alone?

A theme I continue to hear from engineers and geoscientists is that you want to enhance the profile of your profession - you want, you deserve the status, the recognition, and the financial compensation that rightly should go with your professionalism and your high standards. And you want your profession to have its legitimate place among the most respected professions.

But you can't just tell your employers, the opinion leaders and the public simply to respect you more and to pay you more. That would be nice, but that's not realistic.

That is a conclusion that they themselves have to come to, guided by information provided by your Association, and by what they see the profession doing to continue to safeguard the public and to ensure the highest standards are always met.

Let's step back and take a look at what is happening generally in the broader environment.

Overall, there has been a move to increase the self-regulation of professions – In Ontario a number of colleges for health professionals and others were created. In BC dental hygienists became self-regulating in 1995. The college of Traditional Chinese Medicine Practitioners and Acupuncturists was created in 2000 – there are now 23 colleges for health professions in the province. Professional biologists in BC have been looking at whether to become a self-regulating profession.

Why this focus on increasing self-regulating professions – yes, there is some element on self interest on the part of the professions, but most importantly, it is to ensure professionals are bound by the highest standards of conduct and competence. Why? To protect the public. As you know, members of a self-regulated profession are not only responsible for themselves, but are responsible for the other members as well – and you want to make sure they conduct themselves well and are competent.

Crises focus attention on specific professions – I will talk more about accounting later.

Here, there has been the crisis of the failure of building envelopes – the leaky condos – the standards – the plans – the buildings - simply didn't meet the needs of the climate. Your association has been working hard to establish the specialization in building envelope expertise – responding to this crisis.

In Ontario, there was the Walkerton tragedy where the systems to ensure safe drinking water were inadequate and the people responsible for ensuring safe drinking water were negligent. Many people died. New standards for water systems were brought in - a P. Eng must now certify that any drinking water system complies with regulations. No longer will people who have doing a job for a long time simply be grandfathered in with no need to update their skills – like they were in Walkerton - they won't be assumed to be competent.

I believe there will be increasing regulation of anything affecting the public with strict accountability measures. That is the environment we are now in. Trust has eroded. Continuing competency will need to be demonstrated –they won't simply take a professional's word that they are up to date.

Within your own Association, fellow members have been disciplined for not keeping up and not practicing to current standards. In the case of one BC engineer, using outdated techniques resulted in censure – an engineer was not doing his analyses to the current standard of practice. Let me quote from the discipline Committee Panel “opinion, even if

based on long years of experience, is no substitute for quantitative evaluations” .
Experience is no longer enough.

Another pressure on engineers and geoscientists - there are increasing demands that additional competency – specialized knowledge - be demonstrated – beyond the P.Eng. or P. Geo.. Not everyone appreciates that you are *required* to be proficient in anything you certify. No ethical professional would go beyond his or her scope of practice - you all know that, but the outside world does not. And it only takes one bad apple to create a disaster. And, as a self-regulating profession – you are responsible for all your members, including the potential bad apples.

In BC, to be able to certify a site as contaminated, an engineer or geoscientist or other professional must demonstrate their ability through an exam and through experience. They are the only ones authorized to make recommendations under the Contaminated Sites Regulation. I know there is now some uncertainty about where it is going – given that a new body will be responsible for contaminated site review services.

You see this demand for demonstrated specialized knowledge in the new Building Code requirements in Ontario. There, a P.Eng. is no longer good enough to certify – they have introduced an exam for P. Eng.s to demonstrate proficiency in the code.

Another pressure on your profession - standards organizations want technicians to certify their product – not even under the supervision of a P. Eng. Engineers are being pushed out by technologists in some of the most sensitive public safety areas where you would want the highest level of expertise and ethics.

Yes this means jobs for professional engineers and geoscientists are being lost, but furthermore, it means that the public may be left exposed – you have the professional ethics, which require you to safeguard the public above all else. You have the responsibility, the liability that goes along with the privilege of being an engineer or geoscientist.

There are pressures on your profession from all directions. You owe it to yourselves to ensure you are keeping on top of developments, seeing what other professions are doing and providing for your future.

Let me turn to the concept of professions.

We all have an idea of what a profession is, and is not. You know a profession when you see one – there are a number of characteristics common to professions. They are:

Code of Professional Ethics: A code by which all must abide – probably the best known is the Hippocratic oath.

Minimum Academic Requirement: Specialized schooling is essential and there is some form of specialized examination to ensure mastery.

Minimum Professional Experience Requirements. There is usually some form of internship or apprenticeship under the supervision of fully qualified professionals.

Mandatory Practice Standards – so the public is protected, and to guide professionals in how they conduct themselves.

Mandatory Practice Inspections or Reviews – where inspectors or professional peers review the entirety of a practice – records, specific project files, processes and procedures, and so on.

Mandatory Continuing Education and Competency Requirements. Would you want to be treated by a doctor who is out of date?

Defined Specialty Designations that reflect additional education, experience and expertise.

Members of the general public and regulators expect - increasingly - demand that the professions serving them have these attributes.

Let's take a look at other professions– how do they fit these characteristics of professions? One thing that kept coming up as I reviewed other professions – many of the other professions have recently gone through a process of renewal and a tightening up of standards and requirements - especially in requiring continuing competency be demonstrated – some changes were forced on them by governments. But others did it, their way, voluntarily, as they saw the writing on the wall. They chose to do it, on their own terms, *before* the regulators came knocking.

Doctors:

Let's look at doctors. Doctors have a well-established code of ethics, they have a minimum academic requirement – an acceptable medical degree, and they must write qualifying exams. They are required to have clinical experience. They have extensive practice standards. Their practices are inspected – the BC College of Physicians and Surgeons randomly selects doctors each year to go through a peer assessment process in their offices. Some are specially selected – sole practitioners and older physicians have been targeted as they have had more problems. Both general practitioners and specialists go through this – about 200 are done a year. Their focus is educational, not disciplinary – they want to help those with deficiencies improve – and it works – only 10% are found to have significant deficiencies and within a year the vast majority have improved dramatically.

They have explicit requirements for continuing medical education.

Finally, they have a number of specialty designations.
So, doctors get a score of 7 out of 7 on this list.

Chartered Accountants:

C.A.s have been under fire in the last few years. CAs have had a lot of change thrust upon them – they have had to scramble to react, they had no chance to be proactive. There have been a number of moves to shore up public confidence in accounting and accounting standards thanks to Enron and WorldCom internationally – closer to home we have Livent and YBM Magnex, and other crises.

The provincial and federal governments have taken action to enhance public oversight of the profession, clearly feeling that the profession was not doing enough and feeling pressure from the public for more protection. The Canadian Public Accountability Board has been established to ensure independent public oversight of accountants – they are not being trusted to self-regulate anymore.

So where are they on this scorecard?

Accountants have a code of ethics, and must protect the public interest.

To become a chartered accountant, accountants must complete: an appropriate university degree, work in a recognized CA firm with exposure to a diversity of clients and assignments and finally, they must pass the UFE – uniform evaluation exam.

They have quite detailed professional standards and rules of professional conduct – these continue to be refined, with a lot of pressure and input now from the government.

They have practice inspections – ordinary CA firms are inspected by their provincial association. . Now, there are even more standards for firms (the KPMGs, PriceWaterhouseCoopers and so on) that do audit work for publicly traded companies. Formerly, auditors were inspected by their provincial association – now, with the changes forced by regulators, there is an independent national inspection unit which can recommend immediate suspension of members if they believe the public trust is at risk.

New standards are being developed to ensure auditors' independence – limiting the nonaudit work they can do. Again, this is with a lot of pressure from government.

In terms of continuing education, it's mandatory.

Here in BC CAs must do 70 hours in a three year period with a minimum of 14 hours each year, and must keep detailed records of what they do. There are exceptions – medical, out of the workforce and so on. Failure to report means being reported to Council.

CAs have made it mandatory – they say their profession is under severe scrutiny and public confidence in their profession has been shaken. They want to take the lead in rebuilding that trust by demonstrating their commitment to the highest standards of competence.

They have a number of specialist designations, beyond the CA: Investigative and Forensic Accounting; IT specialization, chartered business valuers, internal auditors and so on.

So the score for C.A.s? 7 out of 7.

As part of defining who they are and what they do – and educating the public about the value of their profession - the BC Chartered Accountants have a particularly good value statement – what the ad people call branding – all their press releases say” The 8,800 CAs in BC provide expert advice to a variety of small and large businesses; are key members of management teams, and consult to private industry and the public sector. As members of the Institute of Chartered Accountants of British Columbia, they adhere to a strictly enforced code of conduct and ongoing professional development. “ That is great branding – you know exactly what they are about.

Lawyers:

Lawyers have a specific code of ethics – they take barristers and solicitors oaths. They must graduate from an approved law course and pass the professional legal training course. . They article to provide the necessary professional experience. They have extensive practice standards –they have rules of practice and procedure, and rules of professional conduct. In BC there are spot audits randomly taking a look at lawyers’ practices, as well as practice reviews when there are complaints or competency is in question.

BC lawyers did a survey last year on their continuing legal education needs – legal publications are most used to keep up to date. Interestingly, lawyers who were sole practitioners were less likely to have attended courses. Younger lawyers were more likely to use on-line resources: older lawyers used more resources like video replays of lectures.

But continuing legal education is not mandatory. They recommend it, but it is not mandatory. What they do require is *reporting* the amount of on-going professional development that lawyers do - so every year, every lawyer must fill out a form – they can put zero in the line for the number of hours they’ve done – but they must report it. This is like the system used in Ontario as well. Think about the psychology at work here – we hear you, you don’t want to be forced to do continuing professional development – that’s fine – but you have to report it. And few lawyers want to put a zero on that form. So there has been an increase, particularly in the larger firms of on-going education opportunities like brown bag lunches – bring your lunch and learn – also a great opportunity for the lawyers presenting to hone their skills.

The concerns lawyers have about mandatory professional development are like those engineers have – dislike to be forced into it, concerns about time, the cost, distance, and so on, although on-line offerings have lessened the concern about distance somewhat.

Interestingly, of the 50 states in the US, 40 have mandatory professional development for lawyers.

Specializations – BC does not have formal specialization – Ontario is the only province that has them –certified family law specialist, and so on.

One more note – lawyers are under a lot of pressure from paralegals, who seek to do an ever-widening scope of legal work.

So lawyers get a score 5 ½ - I'm giving a half point for the reporting of continuing legal education -out of 7 on the scorecard.

Pharmacists

Pharmacists are among the most respected professionals. They have a strict ethical code and must have a minimum of a BSc in Pharmacy from an approved faculty of pharmacy. They must complete structured practical experience in a patient care setting.

They have clear, detailed practice standards, with pharmacy reviews, with on-site consultations.

In terms of continuing education- in BC a new professional development program has been introduced – one focusing on profession development, respecting their professionalism and offering choice. All pharmacists must do a self-assessment each year of what they need to know. They can either have a learning portfolio – or they can do an open book exam – a sample of pharmacists are selected each year for formal assessment – with all pharmacists having to take part once every six years. One aspect of their comprehensive program I like is a “MentorLink” program – for those who recognize they need one-on-one guidance from more experienced colleagues to enhance their practice.

There are no specialties, however, many opt to go on to a Doctorate. Pharmacists get a score of 6 out of 7.

Nurses:

They have a code of ethics, must graduate from an approved nursing program –and pass exams. They must have professional experience. They have highly detailed practice standards

To renew their registration, here in BC they must demonstrate continuing competency – every year they go thru a personal practice review process, and must act upon it – developing and implementing a learning plan – and documenting it. Nurse practitioners, who have a broader scope of practice, have additional requirements. The flexibility is there for nurses to identify their unique needs. There is no requirement for specific hours of learning – as professionals, they are trusted to identify what they as individuals need to work on.

There are not formal practice review – when issues are raised through complaints, their College acts.

There are specialist designations, including psychiatric nurses and nurse practitioners.

So, 6 out of 7 for the nurses.

Architects:

Architects in British Columbia, like those in other provinces, have increased the requirements for their members, especially mandatory continuing education.

Architects are bound by a code of ethics – which very specifically mentions continuing education. . In terms of education, architects need to have an approved degree, specific training, and pass an exam. They have practice standards - quite detailed.

In BC, they do not have mandatory practice reviews. In Ontario architects have a mandatory practice consultation. Some architects are randomly selected for review, some can volunteer.

They now have mandatory continuing education requirements. Why?

As the Architectural Institute put it, it was “developed in response to not only the profession’s recognition of its own needs, but also the public’s growing need for assurance that licensed professionals, with exclusive statutory rights to practice, remain current with contemporary technology, business practices, methods and materials of their profession. “

In short, they recognized that the public wouldn’t take their word any more – they demand *proof*, and the architects are giving it to them.

So architects here have to demonstrate 18 learning units (hours) of learning – 8 core – design, construction, use and maintenance of buildings and the like. And 10 non-core hours related to their practice – public relations, business practices, negotiation and so on. The flexibility is built in to reflect their needs. What form can the learning take – very broad – task force participation, conferences, distance education, research, teaching, even guided walking tours, which architects often organize to exchange ideas and learn.

And if they don’t comply? The Architectural Institute can do audits. They do recognize this is a new system – so first they have progressively larger fines, but it does progress to a charge of unprofessional conduct. They mean business. In Ontario a number of architects have been stripped of their license for non-compliance - they do mean business.

The AIBC has worked with your association to develop building envelope specialist designations.

I note that the architects are feeling real pressure from architectural technologists who want to practice a scope of architecture. This is similar to the pressure exerted by engineering technologists on engineering.

Architects get a score of 6 out of 7.

Other Jurisdictions

What is happening in other jurisdictions in terms of engineers?

In the United States, 24 of the 50 states have implemented rules requiring continuing professional development – it is mandatory. At least seven may make it mandatory in the next five years and even more states are studying the issue. There is a clear trend there.

The National Council of Examiners for Engineering and Surveying - that's the umbrella body for the licensing boards for all US states – has developed suggested standards – and most states follow or are close to their model – most need 15 professional development hours a year, or thirty every two years.

Here in Canada, the Canadian Council of Professional Engineers has guidelines to promote and facilitate consistency among provinces and territories. Why? They say public trust in self-regulated professions has been eroded in recent years. This is in response to increased demands by the public for great accountability – with the benefit for engineers to maximize their own potential.

They did a survey in 2002 on professional development with some interesting findings that I hope you will think about. Professional engineers in their 30 s and 40 s are most likely to take training – older and younger engineers are less likely. Engineers in large organizations reported a higher incidence of training. Smaller organizations were least likely to support training – in any way, especially financially. Clearly, there is a challenge in smaller organizations.

New Brunswick has a compulsory continued competency assurance program. Why did they did they go the route to compulsory?

- In their view, competency is a dynamic issue. Learning has become a life long process and professionals are called upon to maintain continued competency.
- They want to ensure the continuing mobility rights of their members
- Other self-regulating professions in New Brunswick are requiring continuing competency.
- It is called for in their act, their by-laws and code of ethics.
- Finally they want to be proactive. They want to do it on their own terms, before something they may not like or something that is not appropriate to engineers is forced on them.

Are there exemptions? Absolutely. For people on parental leave, for retirees – exemptions can be requested and their designation retained.

They do not have to report every year, but they must keep records of their professional development activities. A random sample of members is reviewed every year – they have to keep records over a three-year period. Their association will ultimately be reviewing 200 to 300 engineers each year.

Points are given for professional practice, formal activity – like a course for credit, informal activity like a conference or seminar or self study, participation in engineering associations, making presentations and making contributions to engineering knowledge – for example developing standards. Over three years, you need to show at least 240 PDHs, or 80 professional development hours per year.

In **Alberta**, practicing engineers (and geoscientists) are required to submit, each year, a summary of their professional development hours. They must either submit a report showing 240 professional development hours over three years- does that mean 80 hours in a classroom each year? No – it include professional practice – simply doing engineering work, contributions to knowledge, formal and informal learning and so on. N

If you don't submit it, you must declare you are non-practicing.

Saskatchewan has a mandatory program – each engineer or geoscientist must do a self-assessment of the skills, knowledge and judgment they need, and develop a plan to get it. They have to show 240 credits over a rolling three year period – for example, professional practice can account for up to 50 credits a year, They have to report each year and maintain records for three years.

Just a comment on these compulsory programs – it is quite easy to fulfill the requirements – any conscientious professional is already fulfilling and far surpassing the requirements. I am confident that in this room – involved as you are – you will all easily meet and surpass the requirements.

In **Manitoba**, it is not mandatory, but voluntary. The question about compulsory professional development was put directly to the members and they voted against a compulsory program. It was controversial - this can be a tough sell.

Why the opposition? – many feel the public is already adequately protected by the code of ethics that already requires competency.

What they did come up with, as a compromise, is that their members have to sign a declaration of competence.

Similarly, in **Ontario**, professional development is not mandatory. There has been some discussion about making it mandatory, but they are not there yet. The Ontario Society of Professional Engineers (that's the advocacy body, the Professional Engineers of Ontario is the regulatory body) is currently examining the feasibility of engineering specialties – which could be tied to ongoing professional development – nothing official, but something they are looking at – so you would have say a P.Eng – Civil.

What sorts of reasons do those who oppose continuing professional development put forward? There are number of legitimate reasons.

First off, a number are offended by the notion that, as professionals who work to a high ethical standard, that they would be required to do it – we do it as a matter of course – and are insulted by the suggestion that we are not doing it.

I would say – of course you are – but – the outside world does not know it and does seek proof. We all need to be tuned in to what is happening in the larger world – and our word is no longer enough. Proof is needed.

Time is another valid objection – you are all busy professionals. You need something else on your plate? Who has time to get the training and who has time to do cumbersome record keeping? Any reporting system must be respectful of the time required to fulfill it. My view is your association has been mindful of this.

For people who don't live and work in the major centres – it is difficult to attend courses. Distance can be a real impediment. First of all, there are many different types of learning – it need not be formal coursework – and fortunately on-line learning has progressed.

Cost is another issue – getting and paying for liability insurance, all the costs associated with practice – you need something else? This is particularly of concern for smaller practices, newer practices. Quality programming does cost money, but there has to be some choice in offerings so there are lower cost options.

Then there are people who are not opposed to having to demonstrate continuing competency – they see the value and the need for it – but may have questions about how it will be implemented – what the specifics are – what kind of learning of development is eligible, what the time requirements are, what the reporting requirements are and so on.

Engineers & Geoscientists:

So how do BC engineers and geoscientists fit into the characteristics of professions? Is there a code of ethics? Absolutely. Minimum academic requirements. Absolutely. Minimum professional experience required to get the designation. Absolutely. Clear practice Standards? Yes – significant ones

Practice review? BC as well as Quebec, have practice reviews which many engineers and geoscientists can find extremely helpful – it is a real plus to them, pointing out where they can improve their practices. Some can be picked randomly, some can self-identify, and some are targeted based on concerns. Other provinces do not have them.

Continuing Education requirements? Currently, it is voluntary. Your Association has sent out guidelines for a mandatory program, which are out for consultation. You have probably seen it. In my view, they are quite similar to others in terms of ensuring on-going competency, having enough flexibility to meet your specific needs and not being too onerous in terms of the burden placed on members.

Specialty designations – yes, unlike other jurisdictions in Canada you do have specialist designations such as structural engineers or building envelope specialist – something your association is still working on.

So engineers and geoscientists here in BC get 6 out of 7.

I see real progress in BC. In other jurisdictions in Canada, the score would be as low as 3. This is a profession rightly demanding to be recognized as a profession, and working hard to get on a par with other professions in terms of the highest standards being *required* and being *policed*. Good on you. There is certainly work to be done, but in my view you are ahead other jurisdictions in being forward thinking. To me, the next piece – the final piece - is the required professional development.

As a profession, engineers and geoscientists need to look within before they go to the outside world asking for the increased recognition. You need to be able to confidently proclaim that you stand up there with other professions.

In my opinion, moving to mandatory professional development is positive – and frankly, it just captures what competent engineers and geoscientists here are **ALREADY** doing to keep up to speed, encourage those who may not be keeping up to speed to do so – we are all human, and sometimes we need a little prod.

Self-regulated professions have an obligation to ensure, as best they can, that **ALL** members are meeting certain standards. You are not just responsible for your own practice. So mandatory continuing professional development will promote and monitor competence. It will help identify that much smaller group who don't keep up - and help them to do so. Finally, it will help identify those few who need to be identified – those few bad apples who are not practicing to the high level of competency required – who run the risk of bringing the profession into disrepute

In my view, the work involved is worth the enhanced professional profile, and benefits to individuals who can maximize their potential. And it is part of demonstrating the value of engineers and geoscientists – yes, we have earned and *continue* to earn the respect and privileges of this self-regulated profession.

As someone who works in public policy, and as someone who has spent significant time thinking about how people in your profession are perceived by the larger world, I see the value of it. Enhancing your regulatory requirements to demonstrate to the outside world your continuing competency – it is what is necessary now. Other professions, other jurisdictions have already done it. It's time.

I hope this overview has been helpful. I hope you will thoughtfully engage in the consultation that is going on about the draft guidelines now out. I would be pleased to answer any questions you may have. If you have specific questions about your own proposed program, members of your Continuing Professional Development committee are here, and you can discuss it later with them.