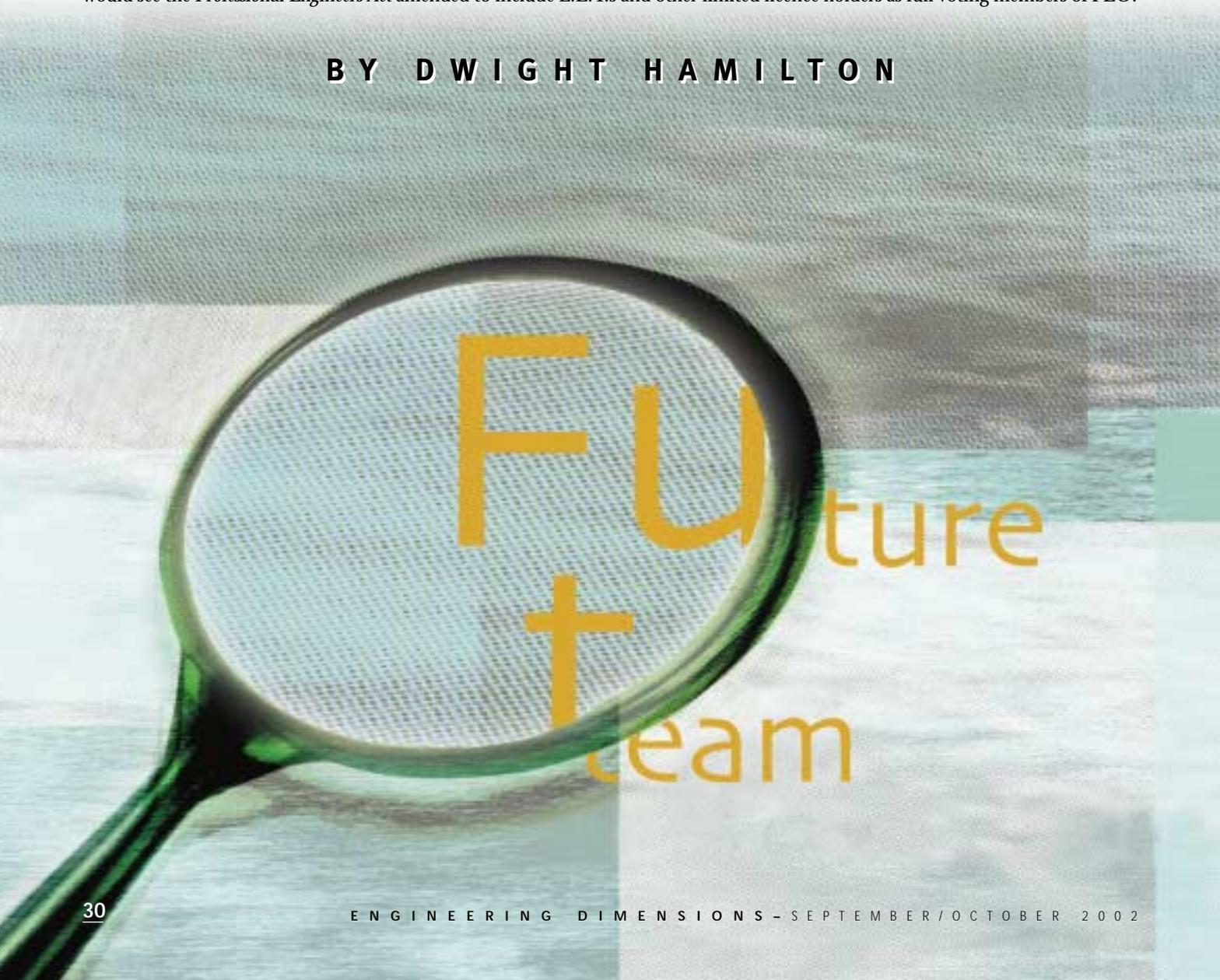


What will the engineering team of the future look like? How will its players—professional engineers, technologists, technicians and others—interact? *Engineering Dimensions* takes a look at some of the complex issues surrounding the regulation of paraprofessionals.

“Just after it was invented, working on a car could have been considered engineering,” says a P.Eng. here at PEO, making the point that science leads to engineering, which leads to technology—and today, mechanics repair cars, not mechanical engineers. Certainly a recent PEO report takes the position that the engineering field is expanding so rapidly that work that was traditionally performed by professional engineers has become so routine and codified that it can now be entrusted to engineering paraprofessionals with highly specialized knowledge and experience in defined areas of practice. The Technologist Licensure Task Group Final Report is an attempt to recognize the expertise of these other members of the engineering team and their evolving responsibility to the public.

Among the task group’s recommendations are that PEO launch a process to license qualified certified engineering technologists (C.E.T.s) as a special class within the provisions of PEO’s limited licence. Those who met the academic, experience and other requirements to be set by PEO would then be granted the exclusive title of “licensed engineering technologist” (L.E.T.). L.E.T.s would have strictly defined scopes of independent professional engineering practice that would be determined by PEO’s thorough assessment of their qualifications. Other recommendations include reducing the overall experience requirement for limited licence applicants while requiring that the experience be more directly relevant to the scope of their limited licence, and enabling L.E.T.s to hold Certificates of Authorization allowing them to provide engineering services to the public within their practice scope. Another recommendation would see the *Professional Engineers Act* amended to include L.E.T.s and other limited licence holders as full voting members of PEO.

BY DWIGHT HAMILTON



The report was received by PEO Council on March 25, and has been circulated for comment to such stakeholders as the Ontario Association of Certified Engineering Technicians and Technologists (OACETT), the Ontario Society of Professional Engineers, Consulting Engineers of Ontario, and PEO's counterparts across Canada. It is available from the PEO website at [www.peo.on.ca/publications/Reports/TechnologistLicensureTaskGroupReport2002.doc](http://www.peo.on.ca/publications/Reports/TechnologistLicensureTaskGroupReport2002.doc) or [www.peo.on.ca/publications/Reports/TechnologistLicensure2002.pdf](http://www.peo.on.ca/publications/Reports/TechnologistLicensure2002.pdf). Depending on the comments received, it is scheduled to return to the floor for debate at Council's September meeting.

Task group Chair Laurier Proulx, C.E.T., believes the model can be modified to accommodate stakeholder concerns, some of which he regards as "not unreasonable." OACETT, for one, would like to define and enforce scopes of practice for L.E.T.s jointly with PEO and see the experience requirement for obtaining the L.E.T. designation lowered to nine years, two less than that recommended. The Ontario Association of Architects wants to know if building officials will acknowledge an L.E.T.'s seal where the Ontario Building Code currently requires a P.Eng.'s.

There is also concern that the model will open a back door to becoming a P.Eng. A university engineering degree is, in the opinion of some engineers, essential for licensure and other roads that lead to the practice of professional engineering amount to a "slap on the face" for all P.Engs in Ontario. However, the *Professional Engineers Act* already enables those without university engineering degrees to become professional engineers by passing assigned technical examinations. A three-year technology diploma or an honours science degree are the minimum educational requirements to be eligible for licensing via the examination route, which can take up to eight years and involve over a dozen examinations.

But some issues are more fundamental. John Gamble, P.Eng., president of Consulting Engineers of Ontario, sees a "paradox" in professional engineers demanding that technologists practise within defined scopes of practice when

P.Engs don't have to define their scopes of practice. The public would be better served if specific activities where there is a demonstrable public interest in holding licensed professionals responsible were identified, and the necessary qualifications for overseeing these activities were defined, he feels. A right to practise in any of these areas could then be granted to anyone who meets the qualifications. Since the definition of professional engineering in the *Professional Engineers Act* is open to interpretation, it's also sometimes argued that almost every engineering-related activity falls within it, and thus requires that a P.Eng., temporary licence holder or limited licence holder take responsibility for it, he notes. By asserting licensing requirements more broadly than they may in fact be justified, the profession risks losing credibility and the public interest is not served, he argues.

### The public first

"We see some benefit in enabling a greater number of qualified practitioners to take responsibility for their own work," says PEO Registrar Roger Barker, P.Eng. "If people become licensed who are not currently, it's in the public interest because their practice will be regulated through PEO. Think of a case where nobody's taking professional responsibility for the work. If a C.E.T. is doing work that, at present, is on the borderline of engineering, we can't take any action. And if there is a problem, all OACETT can do is take away the C.E.T. title. Right now, this work and these practitioners are in a grey area. But with a greater number of limited licences, a measure of responsibility and control is introduced that wasn't there before. It's a move in the right direction that would give the public more protection."

Over the last four decades, PEO has adopted, considered and abandoned various frameworks for regulating allied occupations. In the late 1950s, PEO began a registration program for technicians (which later included technologists) and in 1961 OACETT was created to handle public relations and education programs for tech-

nicians and technologists. PEO retained responsibility for certifying technicians and technologists until OACETT established its own registration board in 1974, a direct result of the 1968 McRuer Inquiry into Civil Rights, which stated that "no self governing body should have statutory control over others who are not members of the body."

The next stab at PEO regulating occupations allied to engineering occurred with the introduction of the limited licence in the major *Professional Engineers Act* revision

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of 1984, currently in force. Few in number, holders of this licence are mostly engineering technologists or holders of degrees in the natural sciences, who have developed expertise comparable to that of a professional engineer in a narrow area of engineering practice, and whose employers would therefore like for them to be able to assume independent professional responsibility for their work in this area.

### Other approaches

Two years ago, the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA) implemented its own take on recognizing the contributions of other members of the engineering team when it began granting "registered professional technologist (engineering)" [R.P.T.(Eng)] licences to holders of the registered engineering technologist (R.E.T.) title, awarded by the Alberta Society of Engineering Technologists (ASET). To be eligible for the R.P.T.(Eng), RETs must be nominated by ASET and must meet qualifications that exceed those required for the R.E.T. APEGGA grants R.P.T.s a defined scope of practice in which they are allowed to work independently

(effectively a limited licence), including stamping drawings with a seal that differs from the professional engineers seal. The design of low voltage power, control and instrumentation systems for oil and gas production and storage facilities is an example of a restricted scope of practice now in use. So far, there are about 60 R.P.T.s in Alberta.

Meanwhile, John Leech, AscT, CAE, executive director, Applied Science Technologists and Technicians of British Columbia (ASTTBC), says the primary challenge for technologists continues to be recognition as professionals within the context of the engineering team and the right to practise within the scope of their qualifications.

To address this challenge, associations of technicians and technologists across Canada have taken the approach of trying to have included in legislation the recognition of paraprofessionals as equally qualified to carry out certain works for which the government assigns legislated responsibility in the public interest. While Leech admits some success in having technologists included in some of B.C.'s regulations, "the challenge becomes how does that relate to the working relationship between the two associations, and in particular, who has rights to do what?"

That's why he and his association's members are in favour of a current proposal that would see a merger of ASTTBC with the Association of Professional

Engineers and Geoscientists of British Columbia (APEGBC).

John Watson, P.Eng., APEGBC president, is blunt about what he sees as the benefits of the proposal: "It stops the battle. It brings under our control the battle over what technologists should be able to do and what engineers should do. Our concern was that if [B.C. technologists] kept lobbying Victoria, eventually someone would weaken and give them an act and a right to practise, with the dividing line between engineering and engineering technology decided by someone who is not familiar with either engineering or technology."

The BC solution hinges on a definition of "engineering technology," which APEGBC would include in an amendment to its Act. The proposed definition is close in wording to most

practice guidelines established by Council." Says Watson: "We think we can look at it discipline by discipline and decide where the limits are."

## Registrar's reservations

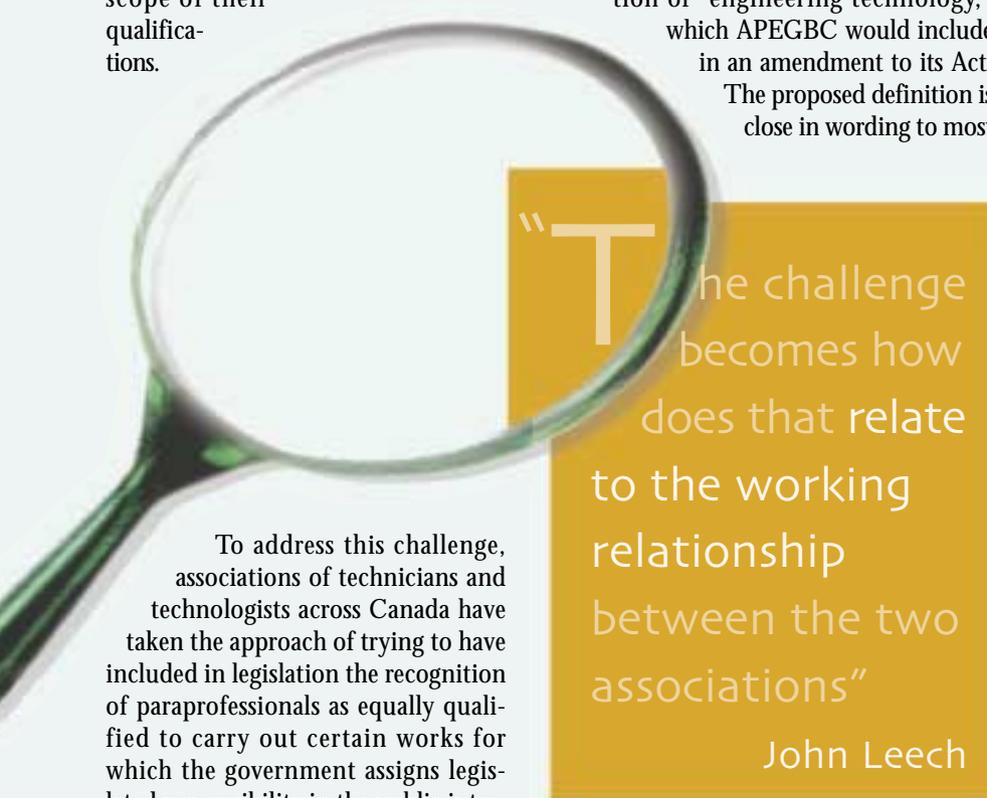
PEO, for one, is concerned about this proposal, however. "I think there are opportunities for all sorts of inconsistencies and ambiguities in delineating the engineering team's responsibilities in practice guidelines," says Registrar Roger Barker, P.Eng. "If you had a clearer definition of what is engineering and what is technology, that would be a single reference point you could come back to for comparison."

In a detailed submission commenting on the proposed merger, PEO has taken the position that giving technologists a right to practise in addition to their right to title amounts to increased authority for them without appropriate safeguards on their qualifications. "We believe that B.C. will be the first jurisdiction in Canada to grant such a right to practise to technologists," the paper says. "Whilst not of concern to yourselves, this will set a precedent that will spill over into the other provinces. This right to practise may be interpreted as a 'licence,' thereby raising questions if not concerns over access to do 'engineering technology' work."

## Two professions, two acts

Yet another approach to dealing with overlapping roles and responsibilities is by using exception clauses in the respective acts of the regulatory bodies involved. This is the sort of arrangement PEO and the Ontario Association of Architects (OAA) came to in the 1980s versions of their acts, which contain identical sections delineating which professional is responsible for which building design-related tasks. A joint practice board was founded for solving any jurisdictional disagreements in the future.

However, this approach depends on both groups of practitioners being licensed professionals, so that they are equally professionally responsible for their work through potential loss of licensure. This enables provisions to be written into both pieces of professional legislation to divide



"The challenge becomes how does that relate to the working relationship between the two associations"

John Leech

provincial definitions of professional engineering, with an emphasis on public safety. It would enable independent practice by technologists where they were applying "appropriate published codes or standards in conformance with generally accepted engineering principles" and where their actions of "sampling, measuring, inspecting, operating or maintaining and reporting on such actions" are "within

the tasks between one, or the other, or both professions where there is overlap, with no loss of accountability. In the case of Ontario, however, the government has shown itself to be reluctant to establish new licences, except in particularly dire circumstances (Bre-X, for example), because licensing imposes a restriction on people's freedom to work as they choose. In provinces where technologists have no statutory recognition comparable to the *OACETT Act*, which at least establishes protected titles for applied science paraprofessionals, the likelihood of a "two acts, two associations" licensing regime being established soon is even more uncertain.

## The way of the future?

If finding a formula to enable the fullest use of the talents of each member of the engineering team, while protecting the public interest, seems a regulatory challenge now, what about when the first graduates of Ontario's new four-year applied degree programs hit the street? Under Ontario's *Post-Secondary Education*

*Choice and Excellence Act*, passed last year, Ontario's colleges of applied arts and technology were enabled to grant applied degrees, which are intended to fill the gap between what students learn in hands-on, three-year diploma programs and theory-heavy, traditional four-year degree programs. So far, the province's Post-Secondary Education Quality Assessment Board has approved the introduction of two technology programs at Conestoga College in Kitchener/Waterloo, and one technology program each at Mohawk College in Hamilton and Seneca College in Toronto. Centennial College, also in Toronto, is offering a degree in computers and communications networking.

Ontario's colleges now have 30 proposals before government awaiting approval this fall—18 are for degrees in applied technology. Another, to be offered by George Brown College in Toronto, would confer an applied degree in regulatory administration and was partly developed by the Ontario Building

Officials Association (see news item in *Engineering Dimensions*, March/April 2002, p. 11).

Although the Ministry of Training, Colleges and Universities hasn't committed to the programs beyond the pilot stage, some of them are implying that their curricula exceed the academic requirements for registration as a paraprofessional and fulfill the academic requirements for licensing as a professional engineer.

With each province having an engineering act that contains a slightly different definition of the practice of the profession, and developments such as Ontario's applied degrees on the horizon, is it any wonder that B.C.'s John Leech feels the way ahead for engineering and engineering technology associations is fraught with formidable challenges? "There will be something a little bit different happening in B.C. as a consequence of what we're doing here," he notes. "But the real issue is how do we get to a point collectively in Canada that is going to serve all Canadians equally at the same time?" ♦

## Whose court is it anyway?

The engineering profession isn't the only one facing the challenge of integrating paraprofessionals into a regulated practice environment to better serve the public interest. How to regulate the practice of a burgeoning group of paralegals has been an issue for 20 years.

Some of them former police officers well versed in court routine but with little formal legal training, paralegals have gained some public recognition as champions of the little guy in an extremely complex and costly civil court environment and in minor traffic offences. The other side, however, sees them as untrained, unaccountable and a real danger to naive clients.

Over the past 12 years, two independent reports on what to do with paralegals have been submitted to the provincial government, both arriving at the same conclusion: regulate paralegals. After the recommendations of the most recent, *Framework for Regulating Paralegal Practice in Ontario* (the Cory Report), appeared to be stymied by lawyer lobbying last year, Queen's Park pressed for more negotiation. The Law Society of Upper Canada and the Professional Paralegal Association of Ontario arrived at a joint proposal this past spring that would see the law society become the sole regulator of legal services.

The law society indicates the new regime would outline "a set of principles for paralegal governance and regulation, including requirements for education and training, accreditation, licensing, insurance, a code of conduct and a disciplinary process." The new rules would fix how lawyers and paralegals work together and the amount of supervision needed in particular areas. The proposal is now before the governing councils of both the law and paralegal societies for consideration.

The province's 31,000 lawyers are split on the issue. Some see that it's in the public interest to reign in those paralegals of dubious merit, others are loathe to surrender hard won turf by enabling paralegals to do any work traditionally reserved for barristers and solicitors. The estimated 800 to 1200 paralegals are also split on the merits of joining lawyers. Most appear to want to be rid of the bad apples that potentially tar every paralegal with the same brush of incompetence, but some cannot tolerate the idea of having to have a lawyer take professional responsibility for their work.

And similar to the engineering profession, Ontario's lawyers will soon see graduates of applied degrees appear on the scene, with Humber College having received the green light to offer a Bachelor of Applied Arts degree in paralegal services.