



by Peter M. DeVita, P.Eng.
President

Since this is my last column as your President, I'd like to revisit some of the major issues I've focused on during my term. It has been a strenuous and challenging year. I thank all staff, Councillors and our committees and chapter volunteers for their efforts in moving our profession forward.

The Ontario Society of Professional Engineers (OSPE) has been launched and is electing its first board of directors as I write this. As President, to complement the new organization's advocacy/member services role, I have worked to refocus PEO on its regulatory role—central to which is issuing the licence to practise engineering. A licence confers an exclusive right to practise a profession. As the licensing body for the profession, it is our duty to assure the competence of our licensees.

It is equally our duty, particularly for emerging engineering disciplines, to ensure that appropriate demand-side legislation is in place to assure the public that they are properly served and protected in these new areas of practice. Given the accelerating pace of technological change and the increasing pervasiveness of technology, it will be an ongoing challenge for PEO to identify and respond to new engineering disciplines.

What's the purpose of our profession?

What is the value of the engineering profession to society? Fundamentally, by applying science to works that are useful to humankind, engineers build economies. This is part of wealth creation. But in creating wealth, we need to mitigate the risks

Are we up to the challenge?

that threaten human wellbeing and the natural environment. Let's consider some examples in bioengineering, software and communications.

At its February meeting, Council endorsed the Bioengineering Task Force's report, which begins to define the body of knowledge required by bioengineers. These first steps in licensing bioengineering are very forward looking, or so we think. Yet, at a recent biotech conference held in Ottawa, a presenter noted that she had published her concerns about this technology back in 1975. Today, 70 per cent of our food is genetically altered.

Consider this example: A variety of corn was genetically modified to be herbicide resistant. However, this corn was crossbred with local weeds. We now have herbicide-resistant weeds! What if we were to do the same thing with a strain of bacteria or a virus? The results could be catastrophic for human life. This indicates just how quickly we need to act.

The engineering profession is taking its first steps to regulate software engineering practice. Software is totally pervasive today. Consider the benefits of these uses of software—nuclear reactor control, aircraft landing gear, elevator controls and automobile engine control. Now consider the risks of a software bug.

Last year, the Royal Society of Canada published a report on behalf of Health Canada on the health effects of radiation emitted by telecommunications equipment. Though the report was not conclusive, the evidence of the health risk of radiation (in terms of causing cancer and other disease) is mounting.

Our code of ethics calls on us to, at the very least, take a precautionary approach. But where is the engineering profession in all of this? Who is ensuring that the public interest is served, as new technologies are being developed and introduced into the marketplace?

Manufacturing orientation

Most new areas of engineering practice are product-design-oriented and are there-

fore either part of, or linked to, manufacturing. The automotive and communications industries are good examples. The manufacturing sector accounts for a growing number of engineers. In fact, over 75 per cent of today's engineering graduates will work for manufacturing firms. We need to direct more energy and attention to this sector of practice.

Part of the problem is the Ontario Professional Engineers Act, section 12, subsection 3 (a), which states that requirements [under the Act] to have a P.Eng. licence to practise professional engineering "do not apply to prevent a person from doing an act that is within the practice of professional engineering in relation to machinery or equipment, other than equipment of a structural nature, for use in the facilities of the person's employer in the production of products by the person's employer."

This clause must be removed, if the Ontario engineering profession is to progress in its role of serving and protecting the public interest in the manufacturing sectors.

Up to the challenge?

The profession has an immense and growing challenge. I believe we need to expand our view of what constitutes engineering and applied science, and opt to be inclusive of these wider fields of applied science. Otherwise, who will?

At the same time, engineers need to take a stronger leadership role in society to provide the benefits of engineering innovation while serving the public interest. This call to the profession to be proactive falls on both PEO and OSPE.

Working with government, speaking out and polished communication skills are not our strong suits. But it doesn't need to stay this way. These are all learned skills—some education and a lot of experience are what it takes to acquire them, just like engineering know-how.

PEO has come a long way over the last three years, but there is still a long way to go. ♦