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RESIDENT'S
MESSAGE**ROBERT A. GOODINGS, P.ENG.**
PRESIDENT

I recently had the pleasure of participating in a ceremony for newly licensed professional engineers. In addition to receiving their licence certificates, these new professionals were also presented a letter from me outlining the traits I believe help to define the extra value brought to all their professional endeavours.

The list in that letter is an encapsulation of what a fully fledged engineer is, or should aspire to be. It is a description that I hope will leave no doubt to anyone reading it that being a P.Eng. is a very high calling. For those who may be seriously thinking of studying engineering and for international engineering graduates with aspirations to licensure, the list may serve to clarify what we expect of professional engineers beyond the relevant hard engineering skills.

I believe these attributes can serve as a reminder to employers of professional engineers and their human resources departments that P.Engs are accountable for the quality and reliability of their work and committed to the highest professional ideals. They establish a brand for P.Engs as individuals having qualifications and personal accountability that are higher than those of an engineering graduate, a standard of accomplishment that reflects positively on any company employing them.

The list of characteristics that I believe defines today's professional engineer includes:

Hard skills

- knowledge of, and ability to apply, mathematics, basic science and engineering science;
- in-depth technical competence in at least one engineering discipline;
- ability to devise and conduct experimentation, including investigation, analysis and interpretation of data and the drawing of valid conclusions;
- ability to design a component, system or process to meet desired needs, cur-

rent local regulations and life cycle needs;

- ability to use up-to-date techniques, skills and the necessary tools for engineering practice, recognizing that these evolve at increasing rates;
- ability to manage engineering works, including the supervision of staff, project management, planning, scheduling, budgeting, project control and risk analysis;

Holistic skills

- understanding of professional practice, ethics, codes and standards, and the concepts of responsibility and accountability;
- ability to communicate effectively, not only with engineers but also with the community at large, both in writing and orally;
- ability to identify, formulate, research and solve engineering problems, synthesizing practicable solutions with due consideration for societal, environmental, sustainable development, public health and safety, and cultural issues, and for the risks involved in their implementation;
- ability to function effectively as an individual and on teams that can be multi-disciplinary, multi-cultural and/or semi-technical in nature, in the latter with the capacity to be effective as a member, a leader or a project manager;
- understanding of the social, environmental and global responsibilities of the professional engineer to impact the public interest positively through having knowledge of contemporary issues as these might impact on engineering practice;
- understanding of the concepts of change and change management;
- recognition of the requirement for continued competence and an ability to engage in life-long learning; and
- understanding of the limitations of practical engineering and related

human systems in achieving desired goals.

It is important that these characteristics are also communicated and appreciated by our representatives in government. Such was the intent of our recent event at Queen's Park, which was attended by more than 40 MPPs (see special centre pullout).

We must take advantage of our skills as professionals to influence the decision-making processes at the provincial level, working with allied groups wherever possible. In 2001, for example, PEO, the Ontario Society of Professional Engineers and Consulting Engineers of Ontario all made submissions to Walkerton Inquiry Commissioner Dennis O'Connor, and to the Provincial Parliamentary Committee on Safe Water. The province now recognizes in the *Safe Drinking Water Act, 2002*, that a professional engineer is required to have input to the operation of potable water systems.

The government understood that society benefits from the assurance provided by the *Professional Engineers Act* that only those who are qualified are entitled to practise professional engineering. This assurance is provided through the licences PEO bestows under the authority of the Act, including limited, temporary and provisional licences.

As members of the profession, we are expected to exhibit the highest standards of honesty, integrity and ethics. And as the licensing and regulating body for the profession in Ontario, PEO is duty-bound to ensure that its processes and procedures effectively evaluate the attributes required by today's licence holders to serve and protect the public interest in engineering matters. Adding value to PEO's licences through critically examining its operations in this area is one of the initiatives in the recently approved 2005-2009 Strategic Plan (see *Engineering Dimensions*, May/June 2005, pp. 56-57). You can expect to hear more about this work as it progresses. ❖