

Media Release

Engineering Association Embraces Software Practitioners

Toronto – (September 7, 1999) – Professional Engineers Ontario (PEO), the regulatory body for engineering in Ontario, announced today it will license, as professional engineers, software practitioners who meet specific criteria. Now, individuals whose work experience is mainly in the area of software design and development, but whose academic background is in something other than an accredited computer engineering or other information technology-related engineering program, will be eligible for licensure, provided they meet other licensing requirements.

For licensing purposes, an applicant's experience must generally be in an area related to the applicant's academic background. For software practitioners this has created difficulty, since there are no accredited software engineering programs yet and many software practitioners have been educated in unrelated disciplines. To address this difficulty, the experience of software practitioners has up to now been assessed by PEO on an individual basis. The new criteria developed by PEO define the core knowledge that software practitioners require for P.Eng. licensing, providing a basis for consistently assessing the qualifications of software practitioners.

PEO expects that software practitioners from engineering and other backgrounds will take advantage of this opportunity to pursue licensure as a professional engineer. "This is an important change and a first step in introducing professional regulation to the software industry," said PEO President Patrick Quinn, P.Eng., FCAE. Recently, the Association of Professional Engineers and Geoscientists of British Columbia announced a similar step.

PEO's requirements for a P.Eng. licence for software practitioners include:

- graduation from an engineering program approved by the Canadian Engineering Accreditation Board (CEAB), or equivalent education;
- four years suitable employment experience—applicants without an appropriate degree may demonstrate more extensive work experience in place of education, or may be required to write examinations;
- knowledge of Control Theory, Mathematical Foundations, Digital Systems and Computer Architecture, Software Design and Programming Fundamentals;
- knowledge of three of Communications, Optimization, Data Management, Real Time and Control Systems, Performance Analysis, Parallel/Distributed Systems and Human Interfaces and Ergonomics; and

- successful completion of the Professional Practice Examination on engineering law and ethics.

In today's marketplace, software practitioners may come from various backgrounds, Quinn notes. Some are professional engineers educated in the traditional engineering disciplines, who've acquired expertise in the software field. Others come from a computer science background. Still others have limited formal training. "It's very difficult to know who is properly qualified," said Quinn.

If the Y2K problem has taught us anything, he adds, it is the potential for faulty software to cause mishap or serious calamity, highlighting the need for regulation and professional accountability in a field that is largely unregulated.

PEO is now identifying those aspects of software design for which professional engineers should take responsibility—expected to include software integral to engineered products, processes and systems, and software tools used to design such products, processes and systems—which would effectively define the practice of professional engineering in this area.

Under Ontario's Professional Engineers Act, only individuals licensed by PEO may take responsibility for professional engineering in the province, or use the title "professional engineer," its abbreviation "P.Eng.," or any other occupational title that may lead to the belief that the individual is entitled to practise professional engineering.

PEO strongly supports development by university faculties of engineering of software engineering programs designed to meet the national accreditation standards set by the Canadian Engineering Accreditation Board, and PEO's licensing criteria for software practitioners. Currently, such programs exist in Ontario at McMaster University in Hamilton and the University of Ottawa.

Professional Engineers Ontario licenses Ontario's 63,000 professional engineers, and sets standards for and regulates the practice of professional engineering in the province. Its statutory mandate is to protect the public interest where engineering is concerned.

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