



# Council approves position on software engineering accreditation

FEBRUARY 15-16, 2001 MEETING

by Dwight Hamilton

Council approved a position on the accreditation of software engineering programs, which PEO's delegates subsequently took to the Canadian Council of Professional Engineers (CCPE) board meeting on March 3. George Comrie, P.Eng., chair of the Ontario Software Engineering Task Force (OSWET) told Council that the position comprised two fundamental principles: that accreditation of engineering programs must be controlled by the engineering profession, and that accreditation standards for engineering programs must not be watered down.

The task force report presented to Council also offered a counter proposal to the creation of a separate Software Engineering Accreditation Board (SEAB), which has been proposed by the Software Engineering Panel established to review the use of the term "engineering" in the undergraduate university community. The panel was the result of an agreement between CCPE, the Association of Universities and Colleges of Canada (AUCC), and Memorial University that settled a lawsuit over Memorial naming a non-engineering program "software engineering." Its proposed SEAB would comprise representatives of the Canadian Engineering Accreditation Board (CEAB) and the Computing Science Accreditation Council (CSAC) of the Canadian Information Processing Society.

The counter proposal in the OSWET report would have the CEAB accredit software engineering programs as it does existing disciplines with one difference: non-P.Eng. scientific experts would be allowed on the visiting teams that gather data on which CEAB makes its accreditation decisions. It would be up to CEAB to deter-

mine how many non-P.Engs it would need on visiting teams and the appropriate qualifications for these experts.

Prior to the Council meeting, at a workshop on February 11, CEAB had identified 22 core values of the engineering accreditation process, which it used to review the draft SEAB accreditation criteria and procedures. It approved a list of substantive and editorial changes to the draft criteria on February 12-13.

Following the Council meeting, at the CCPE board meeting on March 3, all the CCPE constituent associations/ordre except Ontario supported the revised, draft SEAB accreditation criteria. Based on PEO's approved position, the Ontario delegates said they could not endorse the SEAB proposal because it still implied a separate SEAB (as opposed to CEAB and CSAC acting together), contained unnecessary and/or questionable provisions, and did not cover the legal aspects of any agreement with AUCC. After an adjournment intended to find ways to address Ontario's concerns, the following motion was approved by the CCPE Board of Directors:

"Whereas the CEAB has concluded that with changes to the draft SEAB Accreditation Criteria and Procedures:

1. The joint accreditation system can work;
2. The high standards of engineering accreditation can be maintained; and
3. CCPE can maintain adequate control over the accreditation of engineering programs.

Be it resolved that:

1. CCPE accepts the recommendation of the Software Engineering Panel to introduce a system of joint accreditation of undergraduate Software Engineering programs by a joint Board (SEAB) of CEAB and CSAC on the basis of the Draft SEAB Accreditation Criteria and Procedures as amended by CEAB; and
2. these criteria and procedures constitute the technical and operational basis

of an agreement with AUCC to resolve the issue of the use of the term "software engineering" in the undergraduate university community, this agreement to be recommended by CCPE's CEO for approval by the CCPE Board of Directors."

The next step will be to present the CCPE-approved draft SEAB accreditation criteria and procedures to the AUCC for its approval or amendment. PEO will need to approve any final agreement reached with AUCC.

## Regulation of bioengineering

PEO took the first steps in the definition of bioengineering as a distinct engineering discipline when Council endorsed a report of the Bioengineering Task Group, which included draft scopes of practice for biomedical engineering and biore-source engineering, minimum requirements for undergraduate curricula in bioengineering, and examination syllabi for biomedical and bioresource engineering.

Task group co-chair John Runciman, PhD, P.Eng., told Council that before it could begin defining core bodies of knowledge or scopes of practice for bioengineering, it had to come to grips with defining its terms. The task force defines bioengineering as an umbrella term meaning the "integration of engineering science and the biological sciences for the benefit of society." It defines biochemical/food engineering as the branch of bioengineering applied to chemical products, services and food products, bioresource engineering as the branch that deals with engineering design and analysis to develop processes, machines and systems that influence, control, or utilize biological materials and organisms for the benefit of society, and biomedical engineering as the branch that deals with health, medicine and human factors.

Runciman said the task group must further define the draft scopes of practice and concentrate on defining the scope of practice and examination syllabus for the bio-

chemical/food engineering branch. It will bring a final report to Council for approval.

## Chapter system review

Council approved the recommendations of the START II Committee, subject to a comprehensive governance review, as contemplated by the Strategic Plan Vision Statement and Strategic Imperatives approved by Council at its January meeting. The START II recommendations would see PEO:

- ◆ continue to fund and maintain a system of geographically-based chapters, in recognition of the benefits provided by a chapter system to the membership, Council and the profession;
- ◆ undertake organizational and administrative changes to improve the effectiveness of chapters in meeting their objectives; and
- ◆ support chapters forming joint executive committees with the Ontario Society of Professional Engineers (OSPE).

Approval of the recommendations allows PEO to negotiate with OSPE regarding the chapter system and enables

START II to focus on an implementation strategy to achieve the objectives defined in the recommendations.

## Registrar's report

At the February meeting, CEO and Registrar Roger Barker, P.Eng., presented a summary of recent PEO activities. Among the highlights:

- ◆ PEO and the Michigan Society of Professional Engineers have reached an agreement for a stepwise process leading toward licensing reciprocity between the two regions. In addition to the current recognized equivalency of academic and experience requirements for licensure, the first step of the process would see PEO remove the citizenship/residency requirement for licensure, but retain the Professional Practice Exam and one year of Canadian experience. In return, Michigan would waive the Part 1 Fundamentals Examination for experienced candidates but retain the Part 2 Professional Practice examination. Michigan will also consider a form of temporary licence for Ontario P.Engs, which

would require them to work with a Michigan PE collaborator for one year. Both engineering associations support full reciprocity some time in the future.

- ◆ The dean of the University of Toronto's Faculty of Applied Science and Engineering has formed a Curriculum Change Task Force to find ways to improve the undergraduate curriculum to meet the needs of 21st century society. Barker remarked that the proposals correspond well with the findings of recent research done for the Canadian Engineering Resources Board on attitudes among employers in the biotechnology, software and information technology sectors, which emphasized the need for softer skills like communications, team work and problem-solving abilities.
- ◆ The drafting process for the provincial government's next Red Tape Bill has begun. It's intended that the bill will include changes to the Professional Engineers Act recommended by the Admissions, Complaints, Discipline and Enforcement Task Force.