

A squeaky rant

Ernest Eder states that the *Ontario Building Code* is lacking teeth and is not enforced (“Lacking enforcement,” *Engineering Dimensions*, November/December 2005, p. 10). His assertion appears to be based on a squeaky floor in his house and the fact that his municipality does not require a permit to re-roof a building.

As a professional engineer now in private practice in the building industry and formerly a building official for 16 years, I can assure you that the *Ontario Building Code* is most definitely enforced. Furthermore, there are many building permit applicants who would opine that the code is wielded in an overly dogmatic manner by building officials paranoid about municipal liability.

The *Ontario Building Code* is a minimum standard, and for the most part is concerned with the construction of a safe structure with a reasonable economic lifetime. It is not concerned with workmanship, aesthetics or squeaky floors in particular.

The law recognizes that municipalities can provide a level of service based only on their economic capability. On this basis, municipalities have set out the major stages of construction at which inspection is required. Bill 124 solidifies this practice by codifying these stages of inspection. There are certain components of construction that are rarely inspected because they are not visible at any of the stages of inspection. Examples would be the brick veneer ties and the eaves protection under the shingles.

Furthermore, an inspection is a sampling of the construction practices on a project. An inspector may observe that a few selected nailed connections conform to the building code and reasonably infer that the remaining connections of that type are similar.

Finally, municipalities are not obliged to require permits for every aspect of construction mentioned in the *Ontario Building Code*. Where the construction does not involve public safety, does not involve zoning by-laws and the require-

ment for permit would put an undue burden on the municipality and public, municipalities may exempt certain aspects of construction from requiring a building permit. A prime example is replacing roofing as cited by Mr. Eder.

The level of performance that Mr. Eder seems to expect in his rant would send the costs of building permits skyrocketing. A squeaky floor is something that an average citizen could detect before purchasing a house and there are home inspectors who can be retained to provide a report on a building prior to purchase. Mr. Eder’s expectations are unrealistic and are endemic within a public expecting cradle-to-grave protection by their government.

Robert J. Austin, P.Eng., London, ON

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—Robert J. Austin, P.Eng.

To own an office

PEO has not owned its offices since 1973 (“Downtown Toronto selected for PEO headquarters,” *Engineering Dimensions*, September/October 2005, pp.15-16). Nor do we have the “Engineers Club,” which was demolished in the 1990s and was not owned by PEO at any rate (if anyone has recollections of the “club,” the Toronto Historical Board would certainly welcome your input at www.interlog.com/~urbanism/demolist.html). It was here in 1903 that the AIEE Toronto Section was formed (now IEEE Canada). The loss of our own building not only reduced our corporate “brand,” but also restricts PEO’s ability to obtain credit.

One wonders if Ontario’s three major engineering sectors that currently rent three distinct properties might gain more prestige and synergy by being closer together. PEO has its current office on Sheppard Avenue West. OSPE has its office at 4950 Yonge Street, and Consulting Engineers of Ontario is at 10 Four Season Place (not to mention the offices of the Ontario Association of Certified Engineering Technicians and Technologists in the same building). Each of these entities is distinct, and should remain so, but being closer to the others would facilitate communication, school outreach, and promotion of our profession, and reduce interoffice mailing on National Engineering Week. Cost cutting must surely be high on PEO’s

current agenda, as it has the largest membership of the three, but it still licenses only a portion of the engineers in the province. Perhaps before PEO moves in 2009 (when the lease expires), we should initiate a major recruitment drive to see if the planned location will be adequate for an expanded membership. If numbers fall instead of rising, PEO may not need an office, as we could lose our self-regulating status. This could easily happen if PEO were to increase its income from the current membership, without trying to recruit a significant number of those who falsely imagine that they are industrially exempt.

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Over-educated

I was intrigued to read in *Engineering Dimensions* that, according to Dr. Salustri (“Time to separate engineering and applied science?,” July/August 2005, pp. 44-45), holders of an MEng cannot do a PhD. Which one should I send back?

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Accreditation system

I am writing regarding the Viewpoint article in the July/August 2005 issue of *Engineering Dimensions* (“Time to separate engineering and applied science?,” pp. 44-45). Without commenting on the opinions of the writer, I would like to clarify some aspects of the Canadian engineering accreditation system.

The Canadian Engineering Accreditation Board (CEAB), a standing committee of the Canadian Council of Professional Engineers, accredits engineering programs in Canada on behalf of the engineering regulatory bodies, including Professional Engineers Ontario. Graduates of CEAB-accredited programs receive education that meets the academic requirements necessary for licensure as professional engineers in Canada. There are currently more than 235 accredited programs at 36 postsecondary institutions.

Contrary to the statement in the Viewpoint article, CEAB accredits only engineering programs and not applied science programs. In order to receive accreditation, programs must meet the criteria, both quantitative and qualitative,

including the requirement for appropriate engineering design content, as design is the distinguishable feature of engineering programs.

Institutions are free to use BAppSci., BEng, BEngSc, BSci (Engineering) and the like as the degree designation for their accredited programs. The CEAB does not dictate the degree designation, only that the program title must include the word “engineering” and that the title must be properly descriptive of the curriculum content. Furthermore, these programs are currently offered in facilities bearing a range of names from faculty of engineering to faculty of applied science, and even faculty of science.

Additionally, the accreditation criteria require that each program culminate in a significant design experience that is based on knowledge and skills acquired in earlier course work that preferably gives students an exposure to the concepts of team work and project management. This is commonly called a “capstone design project.”

I encourage all licensed engineers in Canada to visit the accreditation section of the CCPE website (www.ccpe.ca/el/acc_overview.cfm) for more information on our world-class system.

*Douglas Ruth, P.Eng., PhD
Chair, Canadian Engineering
Accreditation Board*

Ethics in upbringing

Unless things have changed since I graduated in 1998, I disagree with the assertion that PEO’s *Code of Ethics* is a “central plank in the ethics education of engineering students in Ontario” (“Instilling a new ethical standard,” July/August 2005, pp. 50-53). I also doubt that tacking on “ethical considerations of practice” to the “tail-end of the undergraduate experience” has done anything significant to help ensure ethical practice of engineering by graduates, beyond pointing out potential stumbling blocks like conflicts of interest. Whatever ethics graduates possess will likely have been instilled through upbringing, as alluded to by Dr. Carolyn MacGregor later in the article.

If anything, I found my undergraduate experience to de-emphasize ethics at the expense of a get-marks-at-all-costs

ethos. Under the heavy course load of an undergraduate engineering curriculum, the imposed priority was clearly to maximize returns (marks) while minimizing expenditure (time) on every assignment, test, or exam. Students who ignored this lesson did so at their own peril, and spent unwarranted time on assignments that may have been interesting but which, given the potential returns (mark weightings), did not justify the effort.

With marks and scholarships on the line, and under the weight of a full course load, making the decision not to get a boost by “comparing” results with other students or examining a previous year’s assignment was difficult indeed. In labs, truthfully reported but “wrong” experiment results were penalized. Results that were cooked to perfection by aid of results from the previous year’s lab were rewarded. As a consequence of this approach, cheating on laboratory assignments and quizzes was commonplace. Extrapolating this approach to the workplace results in a philosophy that rewards maximizing returns (profit) while minimizing expenditure (time, labour, and cost) at the expense of all else.

Dr. MacGregor has it right in that unethical behaviour is more “related to gaps in instruction from parents” than to the lack of a few courses or tests on ethics. Instilling a sense of ethics takes time, and cannot be achieved by adding a course or test to the end of a four-year degree. No doubt those with an ethics-oriented upbringing have a big head start; to compensate for those who do not, the engineering educational system should incorporate ethics into the entire curriculum and encourage ethical behaviour throughout the four years, not just pay lip service at the end.

Patrick J. Winter, P.Eng., Toronto, ON

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