

## Where we stand

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I want to congratulate George Comrie on his President's Message "Competence assurance for professional engineers" in the current issue of *Engineering Dimensions* (November/December 2016, p. 3).

The issue of continuing professional development or continuing professional competence has been a topic of debate on PEO council for as long as I've been a member (since 1968) and during the time (25 years) I served as a PEO staff member. There have been innumerable PEO task forces, committees, referenda and debates on this topic over five decades and now I'm pleased to see the yardsticks have moved to the goal line—almost.

Your article is the clearest, most concise and persuasive summary of where the profession stands on this important issue that I have seen. I suggest that your article or an edited excerpt of the same be incorporated into the professional practice and ethics material in Ontario engineering student curriculum.

## A burden to members

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The President's Message "Competence assurance for professional engineers" in the November/December issue (p. 3) was very thoughtfully written but leaves the impression that there is another make-work program for bureaucrats and administrators coming down to add to the burden of members.

The message defines competence appropriately, I think—as an amalgam of knowledge, skill and character. But then comes the suggestion that all three should be measured annually, including character. Sorry, it can't be so. Character is quite deep and doesn't change easily, and its judgment cannot be left to some remote individual—on an annual basis, no less.

- There are two important facts stressed in the message:
- The Elliot Lake Commission of Inquiry did not hear any evidence that the tragedy might have been averted if mandatory continuing education had been in place for our members; and
  - Complaints against professional engineers most often involve misconduct, not incompetence.

Good points indeed. I am also impressed, like Mr. Comrie, by the principle espoused by our task force on the subject that only individual practitioners can determine what to learn to improve their practice and remain competent.

So, with this background, what seems to be the practical suggestion in the message? That members should be forced to (a) complete annually an ethics module, (b) complete a questionnaire on their practice, (c) declare type, duration and cost of their activities, and (d) complete specific competence assurance activities that PEO may impose on them to renew their licence.

Incredible! A much better and much simpler approach would be to send members an annual questionnaire composed in a way that engages them to reflect on their practice, and decide for themselves what they should do to reduce risk to the public and remain competent.

Then leave it at that, without need for some remote cognoscenti marking scores, making judgments and imposing requirements on our members or even offering suggestions.

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Recent articles about the industrial exception in *Engineering Dimensions* prompt me to share my views.

With all due respect, we (PEO) have given an incomplete and simplistic depiction of the industrial exception situation to the press and may even have tended to trivialize it. It is not an issue of the design of guards and personnel safety on machines making widgets or “dangerous” common machine shop tools.

In Ontario, we have a large number of industrial employees, many of whom have the credentials to qualify for membership and do engineering as described by the *Professional Engineers Act* but shun membership. Engineering is also done by employees who would not be eligible for PEO membership. I would suggest that the vast majority of PEO members who work as employee engineers do so because membership gives them attractive resume credentials in the event they get “downsized.” Their jobs do not require membership and they work side by side with licensed and non-licensed folks doing the same work.

The reality is that large companies have internal engineering divisions and departments staffed with managers, supervisors and folks doing engineering that do not follow the practices and rigour that a Certificate of Authorization firm would if it did the exact same work for the “client” company for a fee. Does this protect the public? How, then, does PEO exercise its regulatory mandate? To my mind it does not and with the industrial exception it cannot.

Exempt in-house engineering is not limited to simple machinery and equipment to make products. One industry example: petroleum/petrochemical/refining involves the engineering of complex chemical processes, piping systems, safety shutdown systems, and systems that treat effluent or mitigate environmental impacts. If the standards, checks and procedures and qualifications (competence) in-house are less than those offered by an engineering firm offering the same services to that industry, public protection may well be compromised.

With carbon tax and cap and trade regulations imminent, exempt folks will engineer changes to “their employer’s facilities.” How will PEO fulfill its mandate to protect the public? Perhaps PEO should concentrate on regulating, disciplining and assuring the competence of those individuals and firms that provide engineering services to the public and pass the responsibility for industrially exempt engineering to the province. After all, it is the province that has legislated the exception. PEO can then be called upon by the province as an advisor in this matter if they deem it necessary.

**Editor’s note:** PEO’s enforcement team confirms that the author is quite correct that the industrial exception includes the complex processes described in his example. Such complex systems are considered to be machinery and equipment as defined under the exception inasmuch as these types of plants produce both saleable and waste products. PEO is unable to regulate this engineering work that is permitted under the exception, and delegation to government might create confusion for the public or a disparity in the respective standards of regulation.

### Simplifying the situation

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### Rebar response

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In his letter, Mr. Clutterbuck stated that I was “not aware that there is, in fact, a steel mill in Canada capable of producing stainless steel for rebar” (“Last remaining mill in Canada,” *Engineering Dimensions*, November/December 2016, p. 68). In fact, I was well aware that ASW Steel Inc. produces stainless steel billets and blooms. These are usually considered as intermediate products that require re-heating and further work (e.g. rolling) in order to produce end-user products—such as rebar.

A recent survey indicates that stainless steel rebar is not currently produced (rolled) in Canada—by ASW or by any other organization. Referring to the stainless steel rebar market, Mr. Clutterbuck goes on to say in his letter that “Re-entering this market is anticipated....” It is hoped that their endeavours prove to be successful and that ASW will, in the future, be able to produce the high-quality, long-lasting stainless steel rebar that Canadian infrastructure projects require and deserve.