

2015.03.01

Council
APEGBC
4010 Regent Street, Suite 200
Burnaby, BC Canada V5C 6N2

Re: APEGBC's push for mandatory Continuing Professional Development

After a decade of work by APEGBC on CPD guidelines and bylaw changes, some member input has not been incorporated well if at all, gaps remain, and communication is inadequate.

Herein I will point to examples of requirements needing more work, and question justification.

Work "experience":

Work activity was added to get APEGBC's process closer to APEGA's. Addition emphasizes experience not learning, which does not ensure exposure to new things in a field nor to technology the engineer has not been deep into earlier. My intent was to recognize people working at the leading edge, fully occupied in doing not publishing. Some colleagues will learn from exposure to them, not from courses or publications which won't be available yet.

Guidelines are skewed to academia

Guidelines for publishing are skewed to academia, including the "peer-reviewed" fallacy. (In reality much review is only cursory, or worse is "pal review". Magazines provide quick feedback, and Internet web sites provide almost instant feedback – both from a much broader spectrum of expertise. Yes, it needs to be objectively filtered, as does the output of academia.)

Omissions

Omissions include time needed to support each hour of committee work – the essential homework, promotion of values to help the public and politicians understand what is required for sound engineering work, and marking student reports.

I have pointed to the need for assisting engineers with resisting pressures from others such as managers, some of whom are engineers who've forgotten their background or cannot administer for quality.

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Proof could harm security:

You need to recognize that some members cannot prove what they claimed for CPD, unless you arrange audit by someone with security clearance, or an NDA for civilian work (which isn't an optimum situation for an employer). Even a course in a generic technology is information that spies can add to other tidbits to figure out what an organization may be doing.

Lack of clarity

The proposed bylaw and revised guidelines have improvements, but are too prescriptive, aren't clear, and may not reflect the breadth of accepted CPD contributions intended by APEGBC, judging by comments of David Harvey in Victoria on February 10, 2015.

As well, I suggest the proposed Act amendment be scrutinized to ensure it covers principles while not restricting adding breadth to qualifying education – it seems prescriptive in detail yet leaves out important details from Guidelines it was copied from.

Flawed justification (political)

David Harvey's justification of mandatory CPD when he presented APEGBC's pitch to a Victoria branch meeting depended heavily on political appearances and following the herd. But the public, politicians, engineers, and the profession do not need a CPD system that is ineffective or does not add solid value to the profession.

The hazard of the notion of voting on technical decisions was demonstrated by the loss of a US space shuttle due to evasion of risk data. Morton Thiokol executives voted on recommending launch to NASA, yet only one was an engineer. Key information given to them was badly written (Few statements were relevant, some were what engineer Roger Boisjoly called "blue sky" – pulled out of the air without substantiation. Politicians and social activists often do that – should they be determining standards of engineering qualification? Indeed, John Clague's recent editorial effectively says he doesn't want such people regulating his activities.)

There's a high risk of politicians changing their mind. For example, surveys show the public is not concerned about one push of the BC government and APEGBC, indeed they are firing politicians for advocating it. The best approach is objectivity, the foundation of engineering. Examples of government fostering unsafe and dishonest practices include the Elliot Lake shopping mall collapse and operations of Ontario's ORNGE ambulance service.

The technical need

Failures of engineering work I am aware of include many cases of sloppiness and inattention –

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does CPD address that? (It can, but an overall statement is needed on a principle of engineering.) Others may involve failure to grasp factors in a particular technology, CPD could help if the engineer targets her area of knowledge need for the project, which is difficult to predict.)

Will requirements apply to staff, committees, and council?

I ask if Association staff, committee members, and councilors will be required to undertake CPD to keep their appointments/jobs, as their performance has often not been at professional level.

Examples of apparent need in usability, which is fundamental to engineering work, are:

- Writing in guidelines, CPD bylaw, and APEGBC's presentation is unclear and awkward.
- The IT department took years to learn how to format emails that passed spam filters.
- APEGBC introduced a badly designed online reading method for Innovation, of questionable value as electronic format had been provided for several years, then took years to fix even obvious coding errors. I concluded it was driven from outside the IT department. Fixing a bad user interface is an administrative action, which Policy CG-5 section 4.7 allows the chief executive to make without approval from a committee.

Examples of failure to use the sound methods of knowledge essential to engineering are:

- Using self-selecting respondents in surveys, which can't produce accurate results. That's like not looking in wet areas in determining ground strength of a plot, because it is costly.
- Innovation magazine reported an external survey of public views, which used methodology not supporting the engineering need to choose meaningful parameters.
- Some councilors spent to support claims from a particular socio-economic ideology that don't pass basic engineering validation against reality.
- At the same time, council neglected registration needs, especially for credentials from outside traditional Canada-US systems, and still has quandaries like software quality. It seems that CPD is needed in the basics of epistemology underlying engineering work but broadly applicable including to management, and in focus/prioritization.

Council should review purpose, improve guidelines, check solidity for the long term of its justification, , and rewrite proposed bylaws.



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