

History repeats

I have read with considerable amusement the various posturings PEO has put forward in its dispute with the MMAH on Bill 124 ("Bill 124 deadlock: PEO introduces Building Design Specialist and BDS official marks," *Engineering Dimensions*, January/February 2006, p. 11). I am amused since I was involved with a forward-looking program at PEO in the late 1970s and early 1980s called the "Specialist Program." For those who wish to revisit history, PEO abolished the program with the excuse that it was not "cost effective." Given the energy and financial costs of the current undertakings against the MMAH, I suspect that the Specialist Program could be viewed today as essential and extremely cost effective. Looks like PEO blew it and is now resurrecting the Building Design Specialist as a poor replacement. Perhaps PEO should take a look at the previous specialist program and the qualifications needed to become a specialist at that time before it goes too far down the "new" road.

Without any real details on the Building Design Specialist designation, I already have significant concerns about it. In my opinion, there is no single designation that will satisfy the MMAH requirements; a single designation will be much too broad. A person who is a specialist in mechanical systems (Part 6) or plumbing systems (Part 7) will seldom be a specialist in fire safety engineering, which constitutes over half the content of the code. Looking at the previous specialist program, there were specialists in fire protection engineering who had to demonstrate knowledge of fire protection engineering, practice fire protection engineering, and demonstrate a knowledge of the code parts (and standards) that relate to that discipline. If the current single designation (BDS) is to prevail, PEO will be in the same position it has been since the abolishment of the specialist program. It has no means to identify those who are competent in the various diverse parts of the code. Perhaps a little review of history is in order—before PEO feels compelled to repeat its previous errors and spends a whole lot more money.

*Kenneth Richardson, P.Eng.,
FSFPE, (former Fire Protection
Engineering Specialist), Ottawa, ON*

Undermining their own

The November/December 2005 issue of *Engineering Dimensions* carried many references to the provincial government interfering with the self-regulation of engineering by introducing special tests and regulations. In particular, amendments to the *Building Code Act* which were referred to by R.A. Goodings, P.Eng., and covered by K. Hawthorne (President's Note and "Impasse continues over building code changes," p. 3 and p. 11). In the latter article, it was mentioned that the Large Municipalities Chief Building Officials Group (LMCBO) supports the additional regulations now imposed on professional engineers.

My experience, based on over 40 years in the profession, is that the individuals in the LMCBO are almost exclusively professional engineers. So this raises the interesting question: Why are they not correcting deficiencies in engineering quality through the professional engineers association? Instead, they appear to undermine the concept of "self-regulation," which has been promoted so much lately.

*Konrad Brenner, P.Eng.,
Orillia, ON*

Is it just me?

It is hard to believe that in these times of ever increasing competition and cost cutting that an association can justify a cost increase of 30 per cent to its members (In Council, *Engineering Dimensions*, January/February 2006, p. 23). As a member for the past 18 years, I find it difficult to support such an increase when the association is not being operated in the most cost effective manner.

One item that continually baffles us is the distribution of your *Engineering Dimensions* magazine. With my wife and I both members of PEO for more than 15 years, we have requested numerous times to have only one copy of the magazine sent to our address. Each time, we have been told that it is PEO's policy to send one copy to each member. We find this to be both a waste of money and environmentally unnecessary. Knowing of this unnecessary waste gets one wondering if this is just the tip of the iceberg.

*Timothy Ming, P.Eng., MBA, CFP,
Cornwall, ON*

Ed note: Just to clarify, the proposed increase to the annual P.Eng. licence fee is \$20 in each of 2006 and 2007 (In Council, Engineering Dimensions, January/February 2006, p. 23). The proposal to increase fees by an average 30 per cent applies only to the miscellaneous fees prescribed under Regulation 941/90. These fees have not been increased since 1992.

PEO sends each PEO licence holder a copy of Engineering Dimensions because it is PEO's official journal under section 9 of the Professional Engineers Act. PEO publishes statutory notices and other information in the magazine that it is required under the Act, Regulation 941/90 or By-Law No. 1 to distribute to each licence holder. If this information were distributed by other means, it would cost more than producing and distributing the extra issues of the magazine that some couples receive. We recommend that any duplicates be donated to libraries, high schools, or a person who may be interested in learning about what engineers do.

Alternatives to hydrogen

The article "Fuel cells: Will they rule or ruin the world?" (*Engineering Dimensions*, November/December 2005, pp. 50-55) points out many great facts about hydrogen as a fuel for the future. But it seems to me that the downsides to generating the hydrogen are always listed on the second or third page, if at all, of any article published pertaining to hydrogen as a fuel. The biggest problem is that the big car makers are investing billions upon billions of dollars developing cars to run on hydrogen without first looking at where the hydrogen will come from. Of course, because the money has already been spent, they will let us know how great the technology is. Maybe if those billions were spend on, say, solar cell research, trying to improve the efficiencies from 15 to 50 per cent, or on internal combustion engines for hybrids that can run extremely lean on ethanol-based fuels, maybe we would actually be making a step forward—a step that reduces our dependence on fossil fuels, a step that increases the efficiency of existing solutions, and not just a step forward on hype that pushes the prob-

lems out of the public's eye while keeping the big oil companies happy.

*Nick Pagazani, P.Eng.,
Ajax, ON*

Need for new generation

I find it slightly ironic that *Engineering Dimensions* can feature back-to-back articles on two of the most important energy issues in one issue—electricity generation and distribution, and hydrogen and alternative fuels (“Powering up: Electricity in the new marketplace” and “Fuel cells: Will they rule or ruin the world?,” November/December 2005, pp. 46-49 and pp. 50-55)—but fail to present a discussion on the importance and criticality of the relationship between the two.

In the first article, we are reminded of the tenacious balance that exists now and in the foreseeable future between demand for electricity in Ontario and generation capacity required to meet that demand. Thoughtful readers not familiar with the topic will most likely come away from this article noticing some interesting realities of the current electricity regime in our province. For example, perhaps it is not widely known that the McGuinty government has decided that it is politically expedient to announce the rapid decommissioning of 100 per cent of the province's coal-fired generating capacity. According to the Independent Electricity System Operator's most recent (June) report, roughly 6400 MW of the province's 30,000 MW (21 per cent) total capacity is generated by coal today. Although the Liberal's plan encompasses a range of measures, notably to bring back online nuclear capacity, in essence the current coal-fired capacity will be replaced megawatt for megawatt with net new gas-fired generation. Although it makes good press to announce the retirement of CO₂-spewing smokestacks, the other side of the story is that we are hitching our future to the frightening rollercoaster of the natural gas market.

In the second article, the glamorous notion of a fuel cell in every driveway is trotted out, beginning with the oft-repeated notion that somehow a fuel cell is a source of alternative energy and a solution for all problems created by our fossil fuel energy

regime. The article does do justice though by continuing to the more important topic of hydrogen and, specifically, the manufacture of hydrogen as a fuel.

The crux of this relationship, of course, is that plentiful and cheap electricity would allow for the production of plentiful and cheap hydrogen, which would in turn provide the basis for the replacement of fossil fuels, specifically for transportation. But, as the article on electricity generation points out, we are in a hand-to-mouth situation when it comes to the supply/demand equation. As it stands today, there is very little motivation for capital to flow into new generation capacity in Ontario. Indeed, if the market were the only method used to regulate prices, a glut of new capacity would be met by a corresponding reduction in market rates for that electricity. Therefore, unless there is governmental intervention in the market, we will always have this hand-to-mouth supply/demand situation.

The provincial government could show some leadership by taking a hard look at jurisdictions that have successfully embraced the move to new energy technologies, such as Germany and Denmark. In those types of progressive models, it is understood that government must motivate capitalists to enter the renewable energy markets because of the net benefit to society. If we truly are concerned about the future competitiveness of Ontario, we should start investing in that future today and stop the short term politically motivated gamesmanship.

*Jim Pond, P.Eng.,
Ottawa, ON*

Potential bombs

In the November/December 2005 issue there is an article by K. Hawthorne and J. Coombes on hydrogen fuel cells (“Fuel cells: Will they rule or ruin the world?,” pp. 50-55). I read this article with interest, but noticed that the authors neglected to mention an obvious problem. What I am talking about is the Joule-Thomson Effect, which can easily cause self-ignition of hydrogen at decompression and in the presence of air. Therefore, vehicles equipped with compressed hydrogen tanks are potential bombs in traffic, if involved

in an accident. Even a slight damage to the valves or the tank proper could cause incalculable damage and destruction. It is just a matter of time and statistics for this to become evident. I wonder if those buses should get German road certification soon?

*Andrew Block-Bolten, P.Eng.,
Pittsburgh, PA*

Viewpoint revisited

I wrote a Viewpoint article that appeared in the July/August 2005 issue of *Engineering Dimensions* (“Time to separate engineering and applied science,” pp. 44-45). I received several phone calls and emails about the article, in addition to the three letters to the editor published in subsequent issues. I was largely gratified by the response; however, I have prepared an online “rebuttal,” which may be viewed at <http://deed.ryerson.ca/xiki/View/Blog/200511041>.

I would appreciate you publishing this URL in *Engineering Dimensions* for the benefit of those who would like to find out more about my thoughts on the matter.

*Filippo Salustri, P.Eng., PhD,
Toronto, ON*

Dumbing down and warming up

For various reasons I have only recently read the September/October 2005 issue, and noted two subjects of interest. The first was the “dumbing down” of Ontario's educational system (“The plague of dumbing down,” p. 8). Postsecondary education today is—and always was—expensive, so it seems only logical that the primary and secondary educational system should produce students who are ready for further education. Sad to say this hasn't been happening. At the expense of hurting some feelings, I suggest that much of the problem is that the schools seem to be managed from the union hall.

But my point for this letter is to comment on the continuing discussion (if that be the word!) on the subject of global warming (“Ignoring the obvious” and “The environment and us,” p. 8 and p. 11). *Of course* the world has been getting warmer—this warming trend started about the year 1850: This was the end of the “Lit-

tle Ice Age,” a cold period that started about the year 1300 and that caused heavy loss of life in the northern European countries because of the starvation resulting from crop failures. The Viking settlements in Greenland died out (Greenland, at least the south part, apparently really *was* green when the Vikings found it); European rivers like the Thames regularly froze in the winter.

But, 1000 years ago, during what was called the Medieval Climate Optimum, temperatures were at least as warm as today, perhaps warmer. This was the period when farming became practicable at the higher latitudes, and the increased food supply resulted in an increase in the European population. Needless to say, this warming was *not* caused by bad old humans burning fossil fuels!

The 19th century saw a great migration from Europe to the Americas—but it is significant that the great majority of the emigrants from Europe came from northern Europe, not the Mediterranean areas. They were fleeing the hard times caused by the Little Ice Age.

Of course, the Little Ice Age was a minor blip in the overall world climate compared to the last ice age (the 35th by current count), which covered our part of the world with a mile of ice. Nevertheless, it did have a major effect on the world we know. We should realize that it was a natural phenomenon, but this doesn't mean that we don't have major problems facing today's world: The booming increase in world population is already creating major strains. Let's work on those things we *can* fix.

*Arthur B. Harris, P.Eng.,
Troy, MI*

Dating ambiguities

Michael Mastromatteo's article "Roundtable examines certification and practice standards for software developers," *Engineering Dimensions*, September/October 2005, pp. 21-22) makes reference to a "triggering event" in the software sector. One supposes that he might have in mind another "Y2K" or similar.

It is my contention that there is an ongoing deficiency in software that, if it were quantified, would amount to a triggering event. I am speaking of the daily work done in offices of all sorts where employees guard against errors in the date. Their task is

brought about due to the irrational ways so many dates are expressed. Because dates are written irrationally, they are inconvenient and often ambiguous.

First of all, it should be clarified that we are concerned with the way(s) the date is documented, not spoken. The time is invariably documented as hh:mm:ss.s despite the many ways we express it in conversational mode. The first stop in the "irrational" date is the apparent imperative to tack the most important element, the year, on at the last like some sort of afterthought. This flaw has led, historically, to two further irrationalities: month, day and day, month sequences for the remaining two segments.

Even if the month (or an abbreviation of it) is spelled out, an element of inconvenience persists. If the month is expressed all-numerically, outright ambiguity becomes a fact of life. In addition to the pressure all this places on office workers, the public is also victimized. "Why don't 'they' make up their minds?" one hears.

What has all of this to do with standards for software developers? Well, it emphasizes the imperative that software developers become fully aware of international standards relating to date/time. Standards such as ISO 8601 (in Canada, CSA/CAN3 Z234.4) should, surely, be required reading. Further, that where the date occurs in software, the default position should be based on the standards. It is outrageous that office workers and the public are required to tolerate ad hoc date forms. Y2K was not the end of date problems (only for computers!).

*D. T. Bath, P.Eng.,
Peterborough, ON*

Letters to the editor are welcomed, but should be kept brief and are subject to editing. Publication is at the editor's discretion; unsigned letters will not be published. The ideas expressed do not necessarily reflect the opinions and policies of the association, nor does the association assume responsibility for the opinions expressed. All letters pertaining to a current PEO issue are also forwarded to the appropriate committee for information. Address letters to jcoombes@peo.on.ca.