



# *What if a similar collapse happened today?...*

## PEO'S RESPONSE

BY BRUCE MATTHEWS, P.ENG.

**W**e would like to think that with the modern technology now available to bridge designers, plus the multiple layers of regulatory oversight imposed on large construction projects in the transportation sector, a tragedy like the Quebec Bridge collapse could not happen today. However, a technology-based design tool is only as good as the person who uses it, and the reality of the human ego and the fallibility of human judgment have not changed over the intervening years. A quick review of past cases published in *Gazette* will confirm that fact.

So, let's assume an event like the Quebec Bridge collapse took place in Ontario in 2007. In our scenario, a new, long span bridge being constructed on Highway

401 across the Credit River in Mississauga collapses, resulting in multiple fatalities. We'll also assume that the circumstances leading up to this hypothetical collapse mimicked those of the Quebec Bridge event (although we'll assume that the various responsible engineers were all licensed by PEO). How might PEO, as the regulator of the engineering profession, respond in such circumstances and what actions might it take?

While it is outside of PEO's regulatory mandate to conduct an independent investigation to determine the cause of the collapse, it is reasonable to suggest that PEO would approach the responsible investigating authorities (e.g. Ministry of Transportation, Ministry of Labour, etc.) and offer whatever level of assistance and support might be deemed appropriate. PEO has made such offers in the past, even for events that took place outside Ontario.

There is little doubt that an accident of this magnitude would give rise to a government mandated public inquiry of some type. It is a virtual certainty that

is a sign of accountability. How would PEO hold those individuals accountable and preserve the public confidence in the engineering profession? This is where PEO's complaints and discipline process would come in.

Assuming circumstances that paralleled the Quebec Bridge collapse, and based on the findings of the Royal Commission of Inquiry into the matter, it is reasonable to suggest that, as a minimum, the responsible design engineers and the on-site engineer responsible for inspection and review would all be the subject of discipline proceedings at PEO. The allegations against the design engineers

an allegation of undertaking work that he or she was not competent to perform by virtue of his or her training and experience.

It would be up to a panel of the Discipline Committee to determine whether the evidence supported findings of incompetence or professional misconduct in these circumstances. If such findings were made, it would be up to the same panel to decide on appropriate penalties to levy against the professional engineers. One might speculate as to what those penalties would be, but the overriding principle to be considered by the Discipline Committee would be the preservation of the public confidence in the engineering profession. The professional engineers deemed responsible, even in part, for a high-profile accident with significant loss of life cannot be seen to walk away with a slap on the wrist. The public will want to be assured that the circumstances of the accident are not likely

## *How would PEO hold those individuals accountable and preserve the public confidence in the engineering profession?*

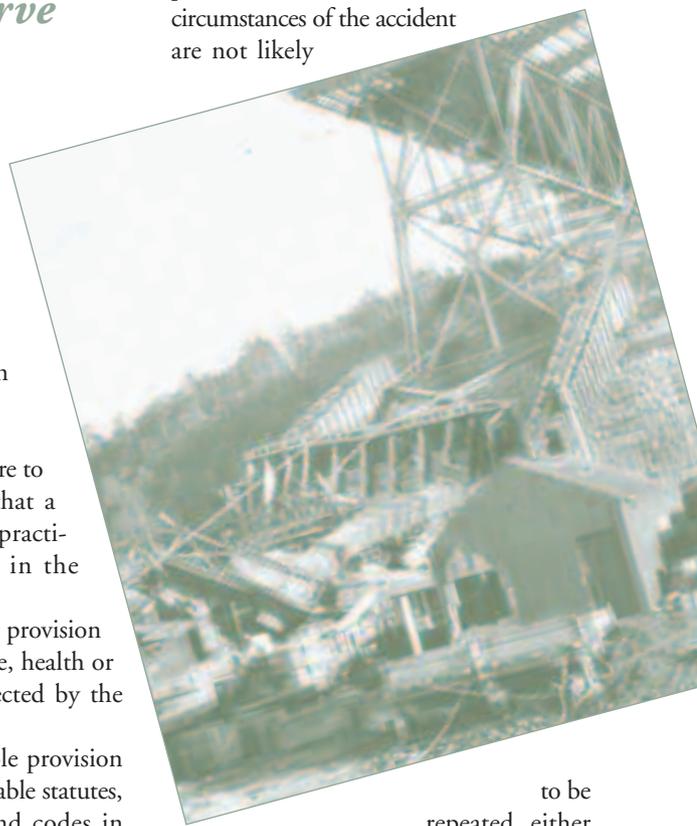
PEO would participate in the inquiry in some form. At the very least, PEO representatives would be called as witnesses to testify to the role that professional engineers are expected to play in major bridge projects—from assessment of design alternatives and preliminary and detailed design, through to inspection and review during construction. It is also possible that PEO would seek some sort of official "standing" at the inquiry (as it has done in the past at certain coroner's inquests where professional engineering issues were front and centre). Such "standing" might allow PEO to call witnesses directly and to pose questions to witnesses called by others. Most importantly, PEO would make some form of submission to the inquiry with a view to influencing the recommendations arising from it.

But what of the professional engineers who were responsible for the design of the collapsed bridge, and those who were responsible for inspection and review during construction? PEO constantly promotes the fact that the P.Eng. licence

would undoubtedly include incompetence and might also include the following elements from PEO's definition of professional misconduct:

- negligence, which is a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances;
- failure to make reasonable provision for the safeguarding of life, health or property of a person affected by the practitioner's work;
- failure to make responsible provision for complying with applicable statutes, regulations, standards and codes in connection with work being undertaken by the practitioner; and
- conduct that would be regarded as disgraceful, dishonourable or unprofessional.

In addition to the above allegations, the engineer who was responsible for on-site inspection and review might also face



to be repeated, either by these engineers specifically or professional engineers generally. PEO's public interest mandate requires nothing less. ❖

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