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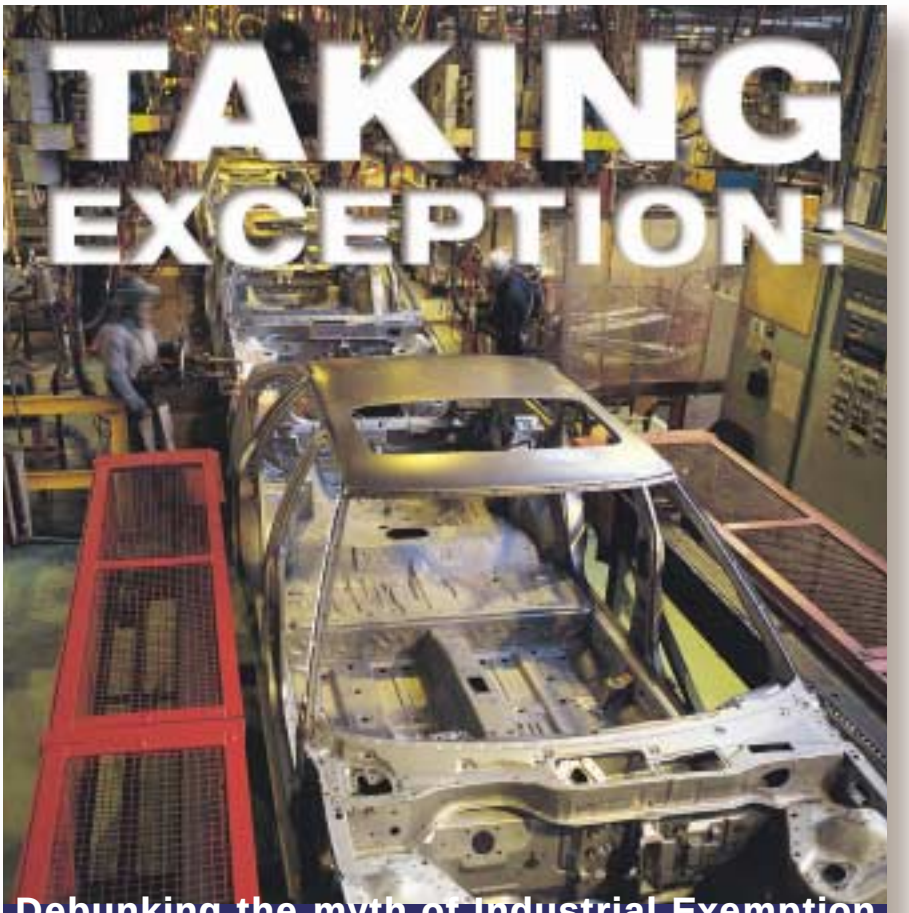

Debunking the myth of Industrial Exemption

In May 2002, the Enforcement Committee endorsed its then chair's thoughts on the perception of an industrial exemption from licensure in Ontario and what PEO should do about it, and recommended the report be forwarded to PEO Council for its information. Here is that report.

by Kenneth McMartin, P.Eng.

The myth of a general "industrial exemption" has been with us since the last major change to the *Professional Engineers Act* in 1984. Recognizing that this perception might be having an impact on its task, PEO's former Licensure Model Task Force commissioned two focus groups to try to gauge the degree of misunderstanding among engineers working in industry, and among management in industry.

This issue also arose in the 1997/98 strategic planning exercise as one of the major issues facing the profession. During this process, I agreed to chair a task force of Councillors to examine the issue. Unfortunately, concurrent political changes at PEO made focusing on this issue difficult. Consequently, during PEO's restructuring period, this issue lay dormant in favour of other pressing issues that PEO had to resolve. As Chair of the Enforcement Committee created by Council in December of 1999, I therefore put this issue on the committee's agenda.

In fact, there is no general "industrial exemption" or "government exemption" in the *Professional Engineers Act*. There are, however, several exceptions to the requirement to be licensed to do work within the practice of professional engineering, one of which is perceived to be an "industrial exemption". I have observed that engineers themselves seem to propagate this myth without apparent understanding of the relevant section of the Act. Even the Canadian Council of Professional Engineers and the provincial/territorial engineering associations/ordre across Canada believe that PEO has a very broad industrial exemption.

Is the public affected?

During the three years I have followed this issue, I have found it to be confusing and largely misunderstood. But I believe that PEO must ask itself whether the "exemption" is a regulatory problem or an advocacy issue. Are we trying to protect the public, or protect and create jobs for licensed engineers? We must recognize that there has been no high-profile failure relating to the engineering done in industry, and there is no demand-side legislation mandating professional engineers' role in industry. We must recognize that aggressive enforcement in industry of the licensure provisions of the Act will be perceived as an intrusion into Ontario's industrial and manufacturing sector. It will be perceived as an invasion of employee engineers' places of work and their employers' rights to use their human resources as they see fit to optimize their tasks.

Before we commit to this challenge, I believe we must understand this issue fully. Accordingly, the following are the appropriate sections of the *Professional Engineers Act*.

Section 12(1) outlines the requirement for licensure. Section 12(2) outlines the requirement for a Certificate of Authorization to offer or provide professional engineering services to the public. Under Section 12(3), there are five exceptions to the requirements of sections 12(1) and 12(2). Sections 12(3)(a) and 12(3)(b) are the ones on which we need to focus our attention:

"12(3) Subsection (1) and (2) do not apply to prevent a person,

(a) from doing an act that is within the practice of professional engineering in relation to machinery or equipment, other than equipment of a structural nature, for use in the facilities of the person's employer in the production of products by the person's employer;

(b) from doing an act that is within the practice of professional engineering where a professional engineer assumes responsibility for the services within the practice of professional engineering to which the act is related."

An understanding of the definition of "the practice of professional engineering" is also key to enforcing the licensure requirements of the *Professional Engineers Act*, because it defines the scope of work the Act reserves for professional engineers [subject to Sections 12(3)(a) and 12(3)(b)].

The definition of professional engineering is found in Section 1 of the Act:

"'practice of professional engineering' means any act of designing, composing, evaluating, advising, reporting, directing, or supervising wherein the safeguarding of life, health, property or the public welfare is concerned and that requires the application of engineering principles, but does not include practising as a natural scientist."

An examination of the wording of Section 12(3)(a), confirmed by a legal opinion (see sidebar) by McCarthy Tétrault, PEO's legal counsel, on the so-called "industrial exemption," reinforces the view that the exception is really very narrow. All it does is permit a person who is not licensed as a professional engineer to carry out work that would normally be defined as professional engineering under the Act on machinery or equipment used in the production of a product for the person's employer in the employer's facility. The exception stands as long as the machinery or equipment is not of a structural nature.

It is my understanding that this exception is the result of a compromise between what was proposed in the staff report of the government's Professional Organizations Committee (a full industrial exemption for all professional engineering in industry) and PEO's position that all professional engineering should be done by professional engineers.

In arriving at this compromise, the government evidently chose to continue to protect the interests of the most vulnerable parties affected by professional engineering work, the third-party public. Unlike the situation in medicine, where the practitioner's efforts impact only the patient (or second-party public), much professional engineering work impacts not only those who have been directly involved in it (professional engineers' employers or clients), but also members of the public who have had no direct involvement.

P.Eng. scrutiny ensures safety

Though Section 12(3) of the *Professional Engineers Act* allows non-engineers to design industrial production facilities there is still an important role for professional engineers as protectors of worker safety. Regulation 851 of the *Occupational Health and Safety Act* stipulates that before any new or altered apparatus, structure, protective element or process in an industrial facility can be put into operation the owner of the plant must obtain a report from a professional engineer who has reviewed the plans for the equipment. These Pre-start Health and Safety Reports are intended to identify potential hazards to workers in a factory and provide guidance to the owner who, by law, is responsible for the workers' safety. The act requires the engineer to identify any non-compliance with the OHSA regulation and other applicable codes that are present in the equipment design. The report must also indicate what corrective measures are necessary to make the apparatus, structure, protective element or process safe.

In settling on the exception in section 12(3)(a), the government appears to have decided that professional engineering work related to a person's employer's production machinery or equipment would likely jeopardize only those who had already been involved in the work and were therefore partly responsible for its outcome. In this regard, the exception to the exception (equipment of a structural nature) is telling, because a failure in this instance could put at risk third parties who would not have had any prior connection with the work. In the government's weighing of competing interests, it is protection of such vulnerable third parties that justifies licensing in engineering.

The example I like to use is the following:

A person is employed with a household products company and is responsible for maintenance of the laundry soap production line. The person carries out work within the practice of engineering on the equipment that puts the soap into the cardboard box. This work is not of a structural nature. In deciding that those doing such work should be excepted from the requirement to be licensed, the government assumed that only the operators of that particular line would likely be adversely affected by a failure of the equipment, and that these operators would likely have influenced the outcome of the work in some way, or been knowledgeable enough to ascertain if it posed a danger to them.

By contrast, with a brake manufacturing company the design of the brakes falls within the practice of professional engineering, and there is no suggestion that the designer is not required to be a licensed professional engineer. This is because, in the government's view, those most likely to be adversely affected by a failure of this practice (i.e. those most vulnerable) are the members of the third-party public, those who have never had any connection with the engineering. Yet, just as in the soap line example, the engineers designing the production machinery would be excepted from the licensing requirement.

Is action needed?

Currently, PEO has no proof that the government of 1984 was wrong in its assumption that professional engineering provided on production machinery in a person's employer's facility poses a risk for

which licensing is justified as a remedy, nor has the public raised the issue as a safety problem.

After careful thought, I have therefore concluded that the exception is a red herring, upon which is blamed all of the aspects of the profession with which engineers are dissatisfied.

What PEO must decide is if it can live with the current situation, or if Council should try to have the exceptions eliminated from the Act. To do this, I believe, would unleash a powerful counter lobby by industry, as evidenced by the example of OIQ, Quebec's engineering order, which in 1999 tried to modernize its definition of professional engineering in a way that would have made it more inclusive of employee engineers in an industrial setting. Industry in Quebec strongly opposed this idea, which has consequently not proceeded forward.

Setting precedents

I do not feel that the goal of ensuring that professional engineers take responsibility for professional engineering done in industry will be well served by legal actions, or by attempts to eliminate what is actually a narrow and apparently relatively benign exception. In both cases, I suspect PEO might lose the battle and set precedents that would severely restrict its authority.

I therefore believe that PEO must attempt to achieve its goal by raising awareness among Ontario's corporations of the added value to them of having professional engineers take responsibility for professional engineering work. At the same time, we must promote licensure to the upcoming generations of leaders in industry through the PEO Student Membership and EIT programs by ensuring that these programs deliver substantiated messages about the value of licensure for these engineering graduates' futures.

Ken McMartin, P.Eng., is PEO President-elect, chaired the PEO Exception Task Force, and is past chair, Enforcement Committee.

Interpreting the exceptions

On January 19, 1990, PEO's legal counsel commented on the scope of the exception to be licensed as a professional engineer under subsection 12(3)(a) of the *Professional Engineers Act*, 1984, and provided examples of how the exception applies.

Section 12(1) of the Act provides that "no person shall engage in the practice of professional engineering...unless the person is the holder of a licence, a temporary licence or a limited licence." Section 12(2) provides that "no person shall offer to the public or engage in the business of providing to the public services that are within the practice of professional engineering except under and in accordance with a certificate of authorization." These two provisions, together with the definition of "professional engineering," define the scope of the application of the Act. If an action does not fall within Section 12(1) or 12(2), a licence or certificate, as the case may be, is not required. If the action does fall within those descriptions, a licence or certificate will be required unless the action is otherwise exempt.

A further limitation on the scope of the Act arises because it is an Ontario statute. The application of the Act is not universal, but rather restricted to the Province of Ontario. With respect to Section 12(1), that means that the licence requirement only applies to acts which fall within that section and which are carried out (or which may be deemed to be carried out, as discussed below) in the Province of Ontario. Similarly, with respect to Section 12(2), a certificate of authorization is only required for the offering or providing of services within the practice of professional engineering in the Province of Ontario. In the latter case, services may be offered in the Province of Ontario by someone who is located outside the Province of Ontario.

Section 12(3)(a) provides an exemption from Sections 12(1) and 12(2). Pursuant to Section 12(3)(a), the licensing and certificate of authorization requirements do not apply to prevent a person from doing an act that is within the practice of professional engineering:

1. In relation to machinery or equipment, other than equipment of a structural nature;
2. For use in the facilities of the person's employer;
3. In the production of products by the person's employer.

It would appear that the scope of the provision was not intended to be broad, but rather that it was intended to cover such things as plant maintenance. However, as discussed below, when analyzed in detail this provision may be somewhat broader than intended and appears to yield some anomalous and uncertain results.

The scope of the exemption is limited to those circumstances where all three of the requirements of Section 12(3)(a) are met. That is, the act of professional engineering must be done in relation to machinery or equipment other than equipment of a structural nature. That machinery or equipment must be for use in the facilities of the person's employer. Finally, the machinery must be used in the production of products by the person's employer.

You have asked us to illustrate the application of Section 12(3)(a) by the use of examples. First, consider a person employed by an automobile manufacturer (the manufacturer):

1. If the person is working in Ontario and is designing, for example, an anti-lock brake system for cars to be manufactured by the manufacturer in Ontario, that person would have to hold a licence to practise professional engineering (assuming that the

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design of the brake system is an act which is within the practice of professional engineering). The act would consist of a design of a piece of equipment (anti-lock brakes), but not equipment for use in the facilities of the person's employer in the production of products by the person's employer.

2. If the person is designing production line equipment to produce the anti-lock braking system or to install such system on cars, the design would appear to fall within the exemption even if the design is carried out in the Province of Ontario. The design would be in relation to machinery or equipment (the equipment used to produce the anti-lock braking system or to install it in cars) for use in the facilities of the person's employer (the employer's plant where the assembly line is located) in the production of products by the person's employer (in the production of anti-lock braking systems or cars).

3. If a person designs the anti-lock braking system in the U.S. for the manufacturer for the production of its own anti-lock braking system or its own cars, the Act would not appear to apply as no act of professional engineering is carried out in the Province of Ontario and services are not offered to a third party in the Province of Ontario. Consequently, the laws applying to professional engineering in the specific state in the U.S. would apply (where I understand from you that there is a complete industrial exemption) and Ontario would have to rely on the demand-side legislation and the market place to regulate the work done.

Another example that you asked us to consider is a producer, transmitter and distributor of electric power (the power company). In its case, assume that all of the acts considered below are carried out in the Province of Ontario. Also assume that each of the acts referred to below is an act which falls within the practice of professional engineering as defined in the Act. On that basis, consider the following examples:

1. A person who is employed by the power company and who designs equipment used in the power company's own facilities for the production of power would probably fall within the exemption provided by Section 12(3)(a) (assuming that the equipment is not of a structural nature). To fall within the exemption, one would have to conclude that electrical power is a "product" produced by the power company.

2. A person who works for the power company in the design of transmission equipment would not appear to be able to rely on the exemption in Section 12(3)(a). This equipment would be used outside of the facilities of the person's employer (in all likelihood) and in any event would be used in the delivery (transmission) of product rather than in its production.

3. A person involved in the design of nuclear reactors and related equipment would again, in all likelihood, be able to rely on the exemption in Section 12(3)(a). (This assumes that the equipment is not of a structural nature. In the case of a reactor itself, there may be good arguments to be made that the equipment is of a structural nature, in which case the exemption would not be available.)

The final example that you asked us to consider would be employees of a chemical manufacturing company. Again, assume that the acts considered are acts within the practice of professional engineering. Consider the following examples:

1. A person working in Ontario who designs chemical processes to be used by the person's employer, the chemical manufacturing company in Ontario, would not appear to be able to rely on Section 12(3)(a). Although the processes will ultimately be used in machinery or equipment in the facilities of the employer in the production of products by the person's employer, that would not appear to be what is intended by the words "in relation to machinery or equipment."

2. If a person designs the machinery and equipment for the implementation of the processes referred to in (1) above, the exemption would appear to be available (subject again to the exception for equipment of a structural nature).

3. If a person is outside of Ontario and carries on the work referred to in (1) above to be used by [the person's] employer in Ontario, the Act would not appear to apply (subject to the discussion below) and therefore the exemption would not be necessary. The person would be subject to the engineering laws in the jurisdictions in which the work is carried out. Ontario protections would again only come from demand-side legislation and the marketplace.

In all of the above cases, if the person is carrying out the design work as an employee of any of the companies referred to above but offers the services to a third party in Ontario, Section 12(3)(a) will not apply and the employer would be required to hold a certificate of authorization under Section 12(2).

In any of the cases above where the person is located outside of Ontario but doing design work to be implemented in Ontario, it may be that a court would find that the Ontario Act applies where all of the design work that that employee is doing is for Ontario and is thus deemed to be done in Ontario. That is, it may appear that the person is located outside of Ontario only to get around the application of the Ontario Act. In addition, if the design is for something only to be carried out in Ontario, it is likely that some work will be done here and the Act would apply. It is also likely that the person working out of the country is an employee of a parent or subsidiary of the Canadian company, in which case the exemption would not apply. Where the design work carried out by the employee is only a part of the employee's overall responsibilities, where the product that is designed can be produced anywhere and is produced elsewhere or where there is some other *bona fide* reason for being located outside of Ontario, a court may have more difficulty in deeming the engineering work to be done in Ontario.

As you can see, Section 12(3)(a) was not intended to provide, and does not appear to provide, a complete industrial exemption. Philosophically, the present position seems difficult to support. If one believes employees should, like other members of the public, be afforded the protections inherent in requiring a licensed professional to be responsible for engineering on in-house matters, the scope of Section 12(3)(a) should be narrower or eliminated altogether. On the other hand, if one is content to rely on the market place, employer responsibility and demand-side legislation, a complete industrial exemption should be considered leaving the scope of the Act confined to the provision of services to third parties.