



Closing the safety gap

Engineering design plays a vital role in the PSR process

“Do it right the first time” is a philosophy suggesting that if a company is able to run a smooth production process from start to finish, correctly and efficiently so there are no delays, the costs of production can be greatly diminished. So why is it that until recently, when a piece of production process equipment is designed, we wait until it is installed for use before retaining a professional engineer to ensure that it is safe to use?

The Ontario government addressed enhancing business competitiveness and improving worker safety through Bill 68, Open for Business Act, 2010, which was approved and given royal assent on October 25, 2010. In particular, it changed the Professional Engineers Act to repeal the licence exception that has allowed non-engineers to design and analyze production machinery or equipment for use in their employer’s facilities making products for the employer. This exception, commonly referred to as the industrial exception, was in force only in Ontario.

The gap identified by the government and addressed through Bill 68 was that as a result of the industrial exception in existence since 1984, no legislation provided public interest oversight of the engineering of processing equipment or machinery. Since that time, the Pre-Start Health and Safety Review (PSR) process, implemented under the Occupational Health and Safety Act and its Regulation 851 in 1991, has helped to close this gap by checking the design for human safety, but only at the stage when the equipment is installed for use.

However, when deficiencies are found, correcting them results in additional costs to businesses and can potentially have a negative impact on profits. The costs are driven by re-work efforts, facility downtime and start-up delays — not to mention added

administration, once the Ministry of Labour is involved. Even worse is the possibility that a machine deficiency is not caught by a PSR and a safety incident occurs, harming a worker in the facility. The repeal of the industrial exception will now ensure that legislation exists to co-ordinate the engineering design phase with the PSR process, and create one integrated and more effective process that builds assurances, helps prevent injuries and fatalities to Ontario workers and puts the public interest first.



“When deficiencies are found, correcting them results in additional costs to business.”

The definition of professional engineering work incorporates the acts of creating something novel, considering the resulting effect on the interests of the public, while using applied mathematical and scientific principles. If you are not sure whether you are doing professional engineering work, you can ask yourself the following three questions:

1. Do your actions involve the planning, designing, composing, evaluating, advising, reporting, directing, supervising or managing of the work?
2. Do your actions require you to apply engineering principles to the work?
3. Do your actions concern the safeguarding of life, health, property, economic interests, public welfare or the environment?

If you answered “yes” to all three, your work is professional engineering and you must have an engineer take responsibility for that work.

So what do you do if you now find yourself in the situation where you are an employee doing professional engineering work on machinery or equipment for your employer? You have two options. You can apply for and obtain a licence if you have the required credentials, or you can have a license holder oversee and take responsibility for your work.

Currently, an individual with either a three-year minimum engineering technologist degree or a four-year minimum Bachelor of Science degree, after obtaining a combination of education and work experience that totals 13 years, may qualify for a limited engineering licence or an LEL designation. Working closely with OACETT, PEO included in Bill 68 a mechanism by which qualified OACETT Certified Engineering Technologists can become authorized to practice professional engineering. The Professional Engineers Act was changed to establish a Licensed Engineering Technologist (LET) class of limited licence. Pending regulations to be approved by the Attorney General of Ontario, the education requirement for a limited licence will be only a three-year minimum engineering technologist or bachelor of science. As well, for the LET designation, the required work experience will be a total of 11 years. You can learn more about the application process at www.peo.on.ca or by e-mailing experience@peo.on.ca.

For more information on this legislation change or the practice of professional engineering in Ontario, contact PEO at consultwithus@peo.on.ca or (416) 224-1100 or online at www.engineeringinontario.ca.

Marisa Sterling, P.Eng., is the project lead at Professional Engineers Ontario for the Industrial Exception Repeal.