It's All About Uptime: A Safe Facility is a More Profitable Facility

By Marisa Sterling, P.Eng., Professional Engineers Ontario

"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 was built, we waited until it was complete before retaining a professional engineer to ensure that it was safe to use?

On October 25, 2010, the Ontario government passed new legislation that enhanced business competitiveness and improved worker safety. Under the new *Open for Business Act, 2010*, an employee will no longer be able to plan, design, compose, evaluate, advise or report on production machinery or equipment in their employer's facility unless they are licensed by Professional Engineers Ontario (PEO). Professional engineers have met strict academic and experience standards set out by PEO. As well, they have demonstrated an understanding of the ethical responsibilities and possess the good character expected by the public that shows they can be trusted as being competent and willing to protect the public's best interests.

For the past 27 years, under an exception found only in Ontario, production facilities could employ non-engineers to design and analyze their production machinery or equipment, after which a health and safety review of that equipment or machinery by a professional engineer would then usually be required prior to start-up. Under the *Occupational Health and Safety Act* and its Regulation 851, if a Pre-Start Health and Safety Review (PSR) found any deficiencies with the equipment or machinery, the company would then need to delay their process to make the necessary design changes and then re-test that machinery for compliance. This re-work could result in additional costs and downtime for that production facility, which could potentially translate into a negative impact on profits.

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. With licensed professional engineers in place from the beginning of the process, further assurances will now exist to help prevent injuries and fatalities to Ontario workers.

When it comes to the design of tools, dies and moulds, however, it is widely-recognized that specialized training is already required to do this work. For this reason, there continues to be an exception where non-engineers can design tools, dies and moulds. With the well established procedures that exist currently, public safety is being protected and it is not necessary to have additional oversight by a licensed engineer.

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 licensed engineer oversee and take responsibility for your work.

If you choose to apply for a licence, you will need to assess your credentials to decide what type of licence best suits your situation. If you have a four-year bachelor degree in engineering, you can start the application for a full professional engineer licence. If you have a three- or four-year science or engineering technology diploma or degree and at least 10 years of experience in the field, you can start the application for a limited licence. You can learn more about the application process through the website, www.peo.on.ca, or by sending an e-mail to experience@peo.on.ca.

If you choose to have a licensed engineer supervise your engineering work, ensure that individual holds a valid Ontario licence. You can check by

searching their name on the member directory available on PEO's website. The engineer can be a third-party consultant, a colleague, a supervisor or a manager. They will be responsible for the work and may need to apply their professional engineer's seal to your final documentation to certify the work.

Professional engineering work is very specifically-defined with protection of the public interest as a primary concern. 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. ■

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

FOR MORE INFORMATION:
For more information on this legislation change or the practice of professional engineering in Ontario, you can contact PEO by e-mail at consultwithus@peo.on.ca or by telephone at (416) 224-1100.