

The Professional Engineers Government of Ontario (PEGO) bargaining agent represents approximately six hundred professional engineers and Ontario Land Surveyors that work within the Ontario Public Service. Public safety is of paramount concern to PEGO members.

On October 27, 2017, the Ontario Ministry of the Environment and Climate Change (Ministry) posted on the Ontario Environmental Bill of Rights registry proposed revisions to Ontario Regulation 419/05 for public comment (see [013-0903](#)). The proposal includes a more stringent sulphur dioxide air standard as well as proposed amendments to how to address transitional operating conditions (TOC). PEGO supports a more stringent province wide sulphur dioxide air standard. However, PEGO believes that the proposed revisions related to TOC will reduce the government's ability to protect public safety. For example, the October 27th posting includes a discussion paper that states the following:

- *“The wording in the Procedure (i.e., MOECC Guideline A10) has not been consistently interpreted by the regulated community and air practitioners”.*
- *“The proposed amendments to the Regulation discussed in this paper would clarify which types of operating conditions are to be assessed under paragraph 1 of subsection 10(1). The proposed amendments focus on discharges of contaminants with the potential for acute health effects.”* (i.e., contaminants with the potential for acute health effects are those that can cause harm after only one exposure).

The Ministry discussion paper, that accompanies the proposed TOC regulatory changes, includes the statement, *“To issue the regulatory notice to require that a specific operating condition, which would not otherwise be considered under paragraph 1 of subsection 10(1), be assessed, the Director would need to be of the opinion that the operating condition is designed to occur at the facility.”*

There are a wide variety of contaminants and operational scenario's, including malfunctions which are not designed to occur but can be anticipated through engineering analyses, that can pose significant risks to public safety. The current wording in the regulation is broad enough to capture this range of scenarios. However, the proposed TOC amendments appear to limit the scope of the regulation and further hinders the ability of government to proactively address process safety management and anticipated malfunctions.

PEGO is concerned that the proposed TOC amendments will result in a narrower application of O. Regulation 419/05 and will hinder the government's ability to proactively protect the public against acute effects. The Environmental Commissioner of Ontario (ECO) indicated, in her recent report of October 2017, that the Ministry is not enforcing Regulation 419/05 and the associated guideline to protect against acute effects¹. PEGO agrees with the ECO on these points.

The Ministry discussion paper also includes a jurisdictional review. Unfortunately, this review omits key risk management aspects of legislation in other jurisdictions such as the United States and Europe.

Other jurisdictions such as the United States and Europe have a robust system that provides engineering oversight of process safety management. For example, the United States Chemical Safety Board regularly completes investigations of a wide variety of operational scenarios at chemical plants and petroleum refineries across the United States with a goal of implementing preventative measures. Many parts of Europe also implement a "safety case" approach that is recognized as a robust model for protecting public safety. This safety case approach involves regular, comprehensive audits of process safety management plans by a regulatory agency. A February 2014 report published by the State of California, "Protecting Public and Worker Safety at Oil Refineries" provides the following description of the safety case model:

"The experience of countries where the safety case model is established indicates several regulatory prerequisites for success, including:

- A designated governmental unit dedicated to enforcement at complex facilities and a large number of inspectors to conduct the initial licensing evaluation and periodic audits; and
- A specialized skill set and a high competence level among inspectors, including chemical and mechanical engineers, process plant operators and social science experts, who are capable to evaluate technical refinery operations as well as human factors, training effectiveness, safety culture, and other factors.

¹ Environmental Commissioner of Ontario, 2017 Environmental Protection Report (page 130): "Unfortunately, this guideline is not reliably followed. Some Sarnia industrial facilities frequently use flaring at multiple locations as a fast, cheap method to burn off excess chemical gases that would pose a danger within their plant. Acid gas flaring can be a major source of sulphur dioxide, particulate matter, noise, vibrations and light. As stated above, even short, undetected exposures to sulphur dioxide can adversely affect human health; such impacts should qualify as 'acute effects'. Moreover, these incidents happen multiple times a month and can last several hours or even days. Yet, although flaring is common, and has acute effects on the community, the emissions from flaring are not reliably included in ESDM reports. When flaring emissions are left out of ESDM reports, the MOECC does not consider such emissions when it evaluates facility compliance with air emissions limits. For this reason, flaring is a particular concern for Aamjiwnaang. The MOECC is well aware of the issue, but has not decided what to do about it..."



In the spring of 2015, the Professional Engineers Ontario magazine published a PEGO written article entitled, “Is there a Need for Improved Public and Worker Safety for Petroleum Refineries?” At that time, PEGO referenced a 2014 report from the Environmental Commissioner that contained similar concerns with respect to communities in the vicinity of petroleum refineries. PEGO recommended in this 2015 paper that an inter-agency team of professional engineers should provide a leadership role in a review of public and worker safety for Ontario petroleum refineries.

PEGO continues to believe that there are gaps in current provincial and federal efforts to protect public safety in a variety of industrial situations and application of a safety case model to more pro-actively and comprehensively protect public safety is necessary in Ontario. Regulatory oversight is particularly important at Ontario industries since engineering work conducted with respect to equipment and machinery at these production facilities is exempt from licensing requirements under subsection 12(3) of the Professional Engineers Act.

PEGO recommends that the proposed amendments to Section 10 (TOC) of Regulation 419/05 not proceed and recommends implementation of a safety case approach in Ontario. PEGO would be pleased to work collaboratively with the relevant government agencies including the Ministry of the Environment and Climate Change; the Ministry of Community Safety and Correctional Services; and the Ministry of Labour towards the objective of a new inter-agency team of professionals to implement a safety case approach in Ontario.

PEGO is also an advocate of public transparency and the important role that this can have in terms of ensuring outcomes are balanced and expeditiously implemented.