

**May 25, 2009**  
**Pollution Probe submission to the Standing Committee on General  
Government on Bill 167 — Toxics Reduction Act, 2009**  
**Summary of Issues**

Pollution Probe supports the Ontario government's commitment to protecting the health and environment of Ontarians through the managements of chemicals. The proposed Toxics Reduction Act is an important piece of legislation in this regard. However, we have identified some potential issues that flow from the current wording of the Act, which we believe should be addressed to ensure the effectiveness of the legislation and subsequent regulations. Further, it is difficult to comment on the overall effectiveness of the Act given that much of the details will be defined within the regulations. The following submission outlines these issues and suggests options for resolution, followed by a description and learning lessons from new innovative regulation in the European Union under REACH (Registration, Evaluation, Authorization and restriction of Chemicals).

**Issue #1: Toxic Reduction Targets**

Pollution Probe recommends that the government of Ontario require renewable targets for toxic use reduction. These are necessary to motivate and encourage all sectors (industry, government and NGOs) to move forward in the reduction of releases of toxic substances into the environment. This target will encourage participating facilities to achieve reductions identified in their plans and allow the government to track the success of the overall strategy.

**Issue #2: Fees, Funds and an Institute**

Although the Government of Ontario has committed twenty four million dollars to support the implementation of the proposed Toxics Reduction Act, this is a one time commitment. An improvement on this structure could be made through the development of a fee system to generate funds in order to sustain an Agency that could provide support to facilities for the implementation of the Act.

### **Issue #3: Lack of Clarity in the Act**

#### *The Approach and Definition of "Toxic Substance"*

The proposed Toxics Reduction Act encourages facilities to reduce the use of 'substances on the toxics substance list', which will be defined within the subsequent regulations. Pollution Probe submits that the following principles be considered when defining the approach to developing the list.

- The determination of the substances on the list requires a clear, transparent process that identifies specific criteria or considerations for inclusion in the list (and removal from it).
- The data and rationale used for inclusion or exclusion of a substance should be made publicly available.
- The analysis of alternatives for listed substances should be evaluated using the same criteria (one option is to consider using the methodologies developed in the European Union or the Toxics Use Reduction Institute of Massachusetts).
- An analysis of the impacts on the environment and human health from the use of alternative substances or substitutes to listed toxics should be required in addition to the required feasibility study.
- Currently in Canada the federal government is assessing 23,000 legacy substances for environmental and human health risks. Prioritization for assessment was completed in 2006. High priority substance evaluation is underway, and the entire inventory will be complete by 2020. Where assessment is pending for certain substances of concern, the precautionary principle should be applied and careful consideration be given to the potential impacts on human health and environment (this also applies to substitutes).
- In developing the list, Ontario should also consider the approaches and decisions used in other jurisdictions such as the European Union's regulation on chemicals management — Registration, Evaluation, Authorization and restriction of Chemicals (REACH). Over the next ten years, starting in 2010 significant new data and information on effects and exposure will be generated through REACH. Mechanisms should be included in the legislation to encourage the consideration of the new data (see Appendix for more details).
- A potential effect of the Act is to discourage the use of listed substances that, while assessed as inherently toxic, would not result in a toxic exposure to the environment or human population. For example, nickel is toxic, but in many uses (i.e., nickel alloy in stainless steel), there may be low risk of exposure. An analysis of substance life-cycles may be a necessary part of the evaluation process for inclusion on the list (or exclusion).

Pollution Probe believes that these principles, if incorporated, will strengthen the effectiveness of the proposed Toxics Reduction Act.

## *Requirements for Substances of Concern*

Upon receipt of the first collection of data on the substances of concern, the Minister should be required to take action upon assessment of the information. Possible actions may include addition to the toxic substances list, removal from the list of substances of concern, or the development of an alternative strategy within a fixed timeframe.

## *“Creation” and Complexity of the Ontario Industry*

The accompanying documentation suggests that the facilities to be covered within the Act are within the manufacturing sector, as well as those in the mining sector engaged in mineral processing activities. These are two distinct sectors with different objectives and processes. Simply put the mineral processing activities generate substances for sale on the market and for use within the manufacturing sector. Some of these substances will possibly appear on the list of toxic substances, for example in the accompanying documentation all metals and their compounds have been proposed for the list of toxic substances. Mineral processing facilities will not commit to reducing the production of these value substances for sale on the market. As a result, we recommend that the Act be improved through clarification of the definition of ‘creation’ or to represent the complexity of Ontario industry through the development of differing requirements depending on the type of facility. For example, the toxic use reduction plans could focus on:

- The reduction of the use of ‘toxic substances’ in manufacturing of articles (consumer products);
- The reduction of creation of toxic byproducts (e.g., PM2.5) in the production of ‘value substances’ (those for sale on the market); and
- The reduction of the release of ‘value substances’ and intermediates into the environment and to humans from production of the ‘value substances’.

We recommend that the definitions of these terms align with those used by the European Union under REACH in order to support Ontario industry’s ability to export to the European Economic Area. Adding this type of clarity to the Act will help to accurately reflect and encompass the complex industrial mixture found within Ontario.

## **Issue #4: Achieving the purpose — integrated monitoring**

The purpose of the proposed Toxics Reduction Act is to “prevent pollution and protect human health and the environment by reducing the creation and use of toxic substances, and to inform Ontarians about toxic substances”. In order to evaluate the success of the proposed Act, the Government of Ontario should commit to an integrated monitoring program for the substances included on the list of toxic substances in the environment (i.e., water, air and soil) and human population (i.e., biomonitoring). Not all sources of the toxic substances are addressed within the current scope of the proposed Act. The accompanying document, *The Proposed Toxics Reduction Act Planned Consultations and Next Steps*, suggests that the affected sectors will

be limited to manufacturing and those undertaking mineral processing activities within the mining sector. Although the evidence from the National Pollutant Release Inventory (NPRI) suggests that these are the most significant sectors in terms of contribution to toxic exposures, important, smaller facilities and non-point sources are not included in the scope of the regulation. While small at the individual level, the sum of these sources may account for a significant total release to the environment and exposure to humans. It is therefore important to track the environmental and human concentrations for the list of toxic substances, in order to identify where further action will be required to prevent pollution and protect human health and the environment. The importance of these types of monitoring programs was highlighted in a case study conducted by the Canadian Commissioner of the Environment and Sustainable Development (CESD) in its 2008 December report (see Appendix for more details).

### **Issue #5: Informing Ontarians**

Pollution Probe is encouraged by the reference to “informing Ontarians about toxics” in the proposed Act. This is consistent with our promotion of the principles of ‘Right to Know’ and, subsequently, ‘Right to Understand’. In order to improve upon the commitments within the proposed Act we make the following recommendations:

- The Act should stipulate that information will be available electronically via the internet, and a timeline for the launch of this resource should be specified;
- The Director shall ensure that reports on the progress of the facilities towards achieving their toxics reductions targets will be made publicly available via the internet and not be limited to the discretion of the regulations;
- The information should be reported in a user-friendly manner (i.e., geographically, linked with regional maps). The information should be presented with consistent, interoperable standards such as Canadian Geospatial Data Infrastructure; and
- Additional contextual information should be provided on each of the toxic substances listed, including the rationale for inclusion on the list, and the subsequent management measures taking place at the company. The disclosure of the management measures used by facilities should be shared amongst facilities in order to develop ‘best practices’ throughout the industry.

## **Learning Lessons from the European Union's REACH: Registration, Evaluation, Authorization and restriction of Chemicals**

The following section provides some examples from REACH (European Union's new regulation on chemicals management) that can support our Ontario initiative and challenge us to go further. REACH came into force in June 2007 and as its implementation continues it will have a dramatic influence on chemicals management worldwide. The objectives of REACH are similar to what we want to achieve in Ontario through the proposed Toxics Reduction Act: to improve the protection of human health and environment from risk that can be posed by chemicals and to encourage innovation in our economy to develop green alternatives<sup>1</sup>.

### **Principles and Objectives of REACH**

In order to achieve these objectives the EU has incorporated some new principles into their approach that has changed the way people think about chemicals management. The underlying principles are:

- Industry (producer and importer) is now responsible for the demonstration of safe use of a substance prior to accessing the European market.
- This responsibility extends beyond their facility and covers the entire supply chain and life cycle stages of a substance.
- This principle extends to both new and existing substances alike, in order to enhance the competitiveness of the EU chemicals industry. Prior to this, requirements for new substances were substantially more cumbersome than that of existing substances, and as a result it was less financially attractive to develop new substances.

These underlying principles are now the drivers of chemicals management policy and will undoubtedly reach beyond the EU. Since importers must also comply with REACH responsibility of the demonstration of safe use also falls to the non-EU producers who export into the European Economic Area. Governments around the world are now considering copying this approach into their domestic legislation. In fact, the US is currently reviewing its Toxic Substances Control Act (TSCA) while Japan and South Korea are each in the process of creating their own 'REACH-style' chemicals management laws<sup>2</sup>.

The following section outlines three of the many elements of REACH that can provide learning lessons for our Ontario discussion.

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<sup>1</sup> The objectives of Registration, Evaluation, Authorization and restriction of Chemicals:

- Improve the protection of human health and the environment from the risks that can be posed by chemicals
- Enhance the competitiveness of the EU chemicals industry, a key sector for the economy of the EU, and
- Ensure the free circulation of substances on the internal market of the European Union

<sup>2</sup> CHEMCON ASIA 2009 [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1121404](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1121404)

## **Learning Lesson 1: Funds and an Institute: European Chemicals Agency (ECHA)**

First, in order to ensure the success of the legislation the EU (similarly to Massachusetts) developed an agency to oversee implementation and evaluation. This is funded through the registration fees incurred by industry.

## **Learning Lesson 2: REACH and Substitution**

The second learning lesson focuses on how REACH deals with substitution. The approach combines both a hazard approach and a risk approach. Authorities nominate substances of very high concern (strictly defined on hazard criteria) for what is known as the authorization list. Substances placed on the authorization list are prohibited from use after an agreed upon sunset date. However, industry can apply for an authorization for a particular use of a substance. There are two scenarios in which authorization can be granted:

1. If industry can demonstrate adequate control of the risk through a full risk assessment; or
2. It is proven that the socio-economic benefits outweigh the risks AND there are no suitable alternative substances or technologies. In this process the applicant must identify and evaluate the existence of alternatives. If suitable alternatives are identified industry must develop substitution plans.

It is important to note that option 1, the ability to demonstrate adequate control does not apply to substances for which thresholds do not exist or are persistent, nor substances that are bioaccumulative, persistent and toxic (PBT), nor those that are very persistent and very bioaccumulative (vPvB) as defined under the REACH regulation.

This approach provides the opportunity for industry to demonstrate, using a risk based approach, the safety of their substance of very high concern.

The four elements of this approach that will contribute to its success and should be considered in the Ontario approach are the following:

- A clear, transparent methodology for inclusion and removal of substances onto the list;
- Opportunity for the public to comment on the proposals and submit information on alternative substances or technologies;
- Public disclosure of the rationale for the decision; and
- All authorizations will be reviewed after a certain time-limit which will be set on a case-by-case basis

The combination of these elements encourages the development of alternatives because companies are able to identify for which substances alternatives are required, are able to provide information about these alternatives during the application for authorization phase and can predict when these will be required through the sunset date and the review date of the authorizations. The transparent public process is

protective for environment and human health in addition to industry concerns as all stakeholders can evaluate the substances against known criteria. The establishment of a process also provides industry with certainty and predictability of their requirements.

### **Learning Lesson 3: Communication along the Supply Chain**

The third learning lesson we can learn from REACH is the emphasis of communication along and amongst the supply chain. As previously noted, REACH requires industry to demonstrate the safe use of a substance along the entire supply chain. This is achieved through communication from producers and importers to their downstream users (customers) and vice versa. As a result of this process, safe use guidelines including risk management measures and operational conditions are identified and shared amongst the entire supply chain. These guidelines will accurately reflect industry practice as they will be developed through the involvement of the supply chain. Since this information will be made available to the public it will also benefit companies outside of the supply chain increasing the development of best practices. We recommend that an approach similar to what is done in Europe should be considered within Bill 167. This mechanism could be implemented as part of the recommended institute in order to communicate best practices amongst Ontario facilities.

### **Conclusion and Summary**

In summary, Pollution Probe supports the Ontario government's commitment to improving the protection of the environment and human health from the risk of chemicals. Today we have identified some areas where Bill 167 could be strengthened. These include the addition of renewable targets for toxic use reduction; the development of fee structure to support the development of an institute designed to facilitate the implementation of the Act, as was done in Massachusetts and the European Union, and increased clarity of the Act.

We recommend that a clear, transparent process be developed for the inclusion of substances on the list of toxic substances, similar to the approach taken in Europe under the Authorization provision.

Further we recommend the development of an integrated monitoring and reporting program that looks beyond tracking the reduction of releases but also measures the concentrations in the environment and Ontarians.

In closing, jurisdictions around the world are taking action on chemicals management. The European Union's REACH represents the world leading standard and has had ripple effects outside of its jurisdiction. The framework places the responsibility on industry to demonstrate the safe use of their substances for the environment and human health in order to access the European Economic Area while at the same time encouraging the development of safer alternatives. We are pleased that the Ontario government has taken the first steps to raising the standard in Ontario. The approach will further our understanding of the chemical mixture within our communities and encourage companies to identify how to best improve the current situation. It is

important that as we consider this Act that we look to enable Ontario's important industries to enhance their competitiveness on the world market. The increasingly stringent environment policies around the world have resulted in an increased demand for innovation to produce safer alternatives to improve the protection of human health and the environment. Thus, the proposed Toxics Reduction Act at a minimum should meet these standards and provide the support and incentives necessary to encourage Ontario industries to be leaders in innovation in the development of the Green Economy.

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## Appendix

### **Chemicals Management Approaches: Registration, Evaluation, Authorization and restriction of Chemicals (REACH) and the proposed Ontario Toxics Reduction Act**

REACH is an innovative policy model that requires industry to demonstrate the safe use of its substance along the entire supply chain, for the environment and human health, prior to gaining access to the European Economic Area. These requirements apply to both what was formerly considered as Existing Substances (similar to the 23,000 legacy substances in Canada) and the New Substances.

REACH requires manufacturers and importers of chemical substances (greater than or equal to one tonne per year) to obtain information on the physicochemical, health and environmental properties of their substances and use it to determine how these substances can be used safely. Each manufacturer and importer must submit a registration dossier documenting the data and assessments to the Agency. As a result significant new data on substances will be available following the implementation of REACH.

This approach provides the opportunity for industry to identify the uses for which their substance can be used safely, through risk assessment, and for those which it is not. The resulting information is a series of safe use guidelines throughout the supply chain of a substance to protect the environment and human health (occupational and general).

In the context of the proposed Ontario Toxics Reduction Strategy the approaches are strikingly different. REACH employs a risk-based approach, requiring both risk assessment and risk based management measures while the proposed Toxics Reduction Act identifies substances on a hazard basis and encourages facilities to reduce the use or creation of the substances.

This approach may be an over simplification of the chemicals industry and the subsequent releases to the environment and risks to human health. Many lessons can be learned from the Risk Assessments in other jurisdictions that have identified unexpected major sources of substance releases, levels and practices for safe use.

Further, the REACH approach under registration requires close communication along the entire supply chain of a substance resulting in meaningful exchange of safe use guidelines for particular industries. These lessons should also be shared amongst other jurisdictions and the communication approach should be considered in the development of domestic legislation such as the proposed Toxics Reduction Act.

For more details see: [http://guidance.echa.europa.eu/about\\_reach\\_en.htm](http://guidance.echa.europa.eu/about_reach_en.htm)

## **Achieving the Purpose — Monitoring: Case Study by the Commissioner of the Environment and Sustainable Development (CESD)**

The importance of monitoring the progress of chemicals management programs, both in environmental and human health performance and release data, was highlighted by a case study by the Canadian Commissioner of the Environment and Sustainable Development (CESD) in its 2008 December report. The audit examined Environment Canada's processes relating to reviewing and reporting on the *Notice Requiring the Preparation and Implementation of Pollution Prevention Plans in Respect of Acrylonitrile*, published in the *Canada Gazette* in May 2003. The audit found that although the government successfully reduced emissions from the one facility in its Pollution Prevention plan the original management plan did not take into consideration releases from other sources. As a result, total emissions of acrylonitrile increased over the four year time period (2003-2006). Recent activities at Environment Canada has reduced total emissions however in 2007 they were still three times higher than they were when the substance was first declared toxic under CEPA 1999 and 8.5 tonnes higher than when the Notice was published in 2003.

For more details see:

[http://www.oag-bvg.gc.ca/internet/English/parl\\_cesd\\_200812\\_e\\_31872.html](http://www.oag-bvg.gc.ca/internet/English/parl_cesd_200812_e_31872.html)