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Re: Regulation made under the Toxics Reduction Act, 2009 (EBR Number: 010-7792)

Dear Ms. Tinta:

This submission on the Draft Regulation on Toxics Reduction (henceforth referred to as the 'Proposed Regulation') has been prepared by the Ontario Mining Association (OMA) after consultation with its members. The purpose of this submission is to provide formal feedback to the Ministry of the Environment (MOE) concerning our members' views on the goals and consequences of implementation of the Proposed Regulation in its current form.

In 2008, Ontario was the country's leading mineral producing province responsible for 28 percent of Canada's mineral production, with an estimated value of approximately \$10 billion. Of this mineral output, close to 70 percent was derived from metallic minerals, with nickel being the single largest mineral commodity with a value estimated at \$2.7 billion¹. Mining is a major employer within Ontario, particularly in the Far North.

OMA members understand that the principal goals of the Proposed Regulation are the reduction of Toxic Substances created or used in manufacturing processes and better access to information for Ontarians about Toxic Substances; OMA members are supportive of these stated goals. However, review of the Proposed Regulation indicates a number of concerns for the mining industry. General concerns include:

- i) The designation of metallic end-products of mining as Toxic Substances. If this is passed into law then up to 70 percent of the provinces annual mineral output (i.e. metals) with a net worth approaching \$7 billion will be re-classified as "Toxic Substances" with an implicit requirement for mining companies to voluntarily reduce production of what is their main products, which are used to make everyday items. This raises legitimate concerns of stigmatisation of mine products and mining companies, as well as the creation of confusion amongst Ontarians about the toxicity of everyday items fabricated out of metal. Foreign or out of province imports containing the very same "Toxic Substances" would still be allowed to enter the Ontario marketplace unhindered, thereby creating a false planned economy.

¹ http://www.mndm.gov.on.ca/mines/ogs/ims/facts/bulletins/production_factse.pdf

- ii) OMA members have repeatedly commented that the National Pollutant Release Inventory (NPRI) Schedule 1 list of substances is inappropriate as the basis for a toxics reduction program, since NPRI is intended to promote reductions in pollutant releases, while excluding the end products of manufacturing processes.
- iii) The list of Toxic Substances should exclude metallic end-products and alloys. The Toxic Use Reduction Act (TURA) adopted by Massachusetts in 1989 (upon which the Proposed Regulation is based) delisted metal alloys in 1995 and delisted copper and silver in 1999; remember this is a state which has no metal mining industry. For Ontario the designation of certain metals and alloys as Toxic Substances will result in contradictory outcomes, for example: lead (a designated Toxic Substance under the Proposed Regulation) is commonly present in varying quantities in stainless steel, brass and bronze. It is ironic that under the Proposed Regulation, stainless steel, bronze and brass will not be classed as “toxic” due to their lead content. Perversely however, stainless steel will be classed as “toxic” by virtue of its nickel content, and brass and bronze will be classed as “toxic” by virtue of their copper content.
- iv) OMA members support reductions in the release of metals in all forms in emissions from mining and mineral processing operations. A “toxic release reduction act” would be supported by all OMA members, providing it complements, rather than duplicates existing legislation.
- v) Substitution of Toxic Substances (a goal of the Proposed Regulation) is clearly contrary to the very business model of any mining company dependent upon a natural resource for which there is no substitute (or need for one).
- vi) MOE chose to base the Proposed Regulation on a legislative model from Massachusetts, a state which has no metal mining industry. In OMA members’ opinion, consideration of legislation from jurisdictions which encompass metal mining industries such as USA (federal) and Australia would have been more appropriate.
- vii) The Scientific Expert Panel created by MOE to form the Toxic Reductions strategy does not contain any representatives from the mining industry, when this is an industry that will be significantly affected by the Proposed Regulation.
- viii) The stakeholder “consultation” process carried out by MOE was too short and was not consultative.
- ix) The Proposed Regulation duplicates many of the requirements of the existing federal NPRI program while providing little additional benefit.
- x) The regulatory burden of the Proposed Regulation is significantly greater than NPRI and yet reporting thresholds are similar. Thresholds should therefore be raised in recognition of the larger regulatory burden.

OMA members strongly urge MOE to prolong the consultation period beyond 45 days in order to allow further *meaningful* dialogue with representatives of the mining industry. OMA members cannot stress enough the utmost importance of MOE listening to the many and serious concerns expressed in this submission and for it to consider revising certain aspects of the Proposed Regulation in order to ensure that the demands upon industry are reasonable and are proportional to the level of benefit to all stakeholders that the Proposed Regulation is aiming to deliver.

In OMA members' opinion, to achieve credibility within industry and the wider scientific and regulatory communities, any Toxics Reduction program devised by MOE has to be based upon universally accepted principles of i) risk-based assessment; ii) transparent development process with all documentation accessible to stakeholders; and iii) the expert panel overseeing program development should include representatives from government, academia, industry and the general public.

OMA members believe that a sector-specific phase-in approach would be equitable to industry, the MOE and the public. Allowing industry to conduct pilot studies at select facility(s) that are representative of the sector, will allow industry to better understand their costs and will provide MOE with real life data to help it determine how the Regulation can be improved.

OMA members believe that implementation of the Proposed Regulation will be an onerous and costly exercise for mining companies with no readily foreseeable benefit to further protecting the environment or better informing Ontarians. The Proposed Regulation and its measures drive reduction in use/production, rather than the more critical reduction of air and water emissions.

The main concern over implementation relates to the vastly increased and onerous reporting requirements, the majority of which appear to provide dubious benefit in helping MOE meet its stated goals. OMA members have raised over twenty concerns relating to Toxic Substance accounting, the format and applicability of Reduction Plans, confidentiality of proprietary business information and the piecemeal approach for creating the new legislation. These are detailed in the attached document, along with recommendations for how the regulatory development process can be improved. This includes suggestions for amendments to the Proposed Regulation which will help MOE better achieve its stated goals, while keeping the regulatory burden on the mining industry proportional to the benefits the Proposed Regulation will deliver. To avoid increasing uncertainty in the mining industry at a time when uncertainty abounds due to the global economic downturn, OMA members believe that it would be prudent for MOE to delay the introduction of the Proposed Regulation until it can be introduced as a complete piece of legislation.

On behalf of its members, OMA would like to thank MOE for considering their feedback on the Proposed Regulation. Our members look forward to having the opportunity to discuss the contents of this submission with MOE at the earliest opportunity prior to the ratification of the Proposed Regulation, so that they can work constructively with MOE to achieve its desired outcomes for the environment and for all Ontarians.

Sincerely,

A handwritten signature in black ink that reads "Chris Hodgson". The signature is fluid and cursive, with a long, sweeping underline.

Chris Hodgson
President

cc: Dalton McGuinty, Premier
John Gerretsen, Minister of Environment
Michael Gravelle, Minister of Northern Development, Mines and Forestry
Tim Hudak, Leader, Official Opposition
Andrea Horwath, Leader, New Democratic Party of Ontario
Toby Barrett, PC Critic, Environment
Peter Tabuns, NDP Critic, Environment

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1.0 INTRODUCTION

The Ontario Mining Association (OMA) was established in 1920 and is one of the longest serving trade organizations in Canada. Our members include operating mines, metallurgical plants, contractors, suppliers and engineering firms. They are located throughout Ontario, driving wealth creation and regional development, while significantly contributing to the province's tax base and balance of trade. The OMA has a long history of working in concert with the government, communities of interest and the public to ensure that the mining industry in Ontario is competitive and serves to benefit all Ontarians.

This submission on the Draft Regulation on Toxics Reduction (henceforth referred to as the 'Proposed Regulation') has been prepared by the OMA after consultation with its members. The purpose of this submission is to provide formal feedback to the Ministry of the Environment (MOE) concerning our members' views on the goals and consequences of implementation of the Proposed Regulation in its current form. The OMA's aim is to provide MOE with constructive feedback which its members sincerely hope will be taken into consideration by MOE before the Proposed Regulation passes into law later this year.

1.1 Background

According to the Ontario Government's own statistics, last year Ontario was the country's leading mineral producing province responsible for 28 percent of Canada's mineral production, with an estimated value of approximately \$10 billion. Of this mineral output, close to 70 percent was derived from metallic minerals, with nickel being the single largest mineral commodity with a value estimated at \$2.7 billion².

The mining sector employs about 25,000 people directly, a total of about 100,000 directly and indirectly, and the mineral sector cluster employs close to a total of 200,000 people in the province. In some parts of the province, especially in the Far North, mineral resource development is critical to creating sustainable economic opportunities. Mining is the largest private sector employer of Aboriginals in Canada. It is an industry which invests in its future; \$1.7 billion annually in construction, equipment, exploration and research and development; \$2,300 annually in safety training per employee; \$130 million annually in environmental protection and more³.

The positive secondary effects from having such a strong mining industry are numerous. Toronto is the international financial centre for the mining industry worldwide. The City is home to 400 mining and exploration companies and 260 mining-related companies such as analytical laboratories, research facilities, and international consulting firms in geological surveying/analysis, engineering and environmental protection. With more than 300 mining companies listed, the Toronto Stock Exchange outranks all other world exchanges in raising capital for the mining sector⁴.

At the same time, mining companies function in a fiercely competitive and increasingly mobile global market. Recent turbulence in the global economy has had a negative impact on our industry, but there are steps that the government can take to ensure that Ontario is in an optimal position to take advantage of the next upswing in commodity prices. A basic foundation of mining success in Ontario, the feature that can set our province apart and give us an advantage over some other jurisdictions with significant mineral potential, is certainty of the rule of law and regulatory efficiency and clarity. These need to be maintained and enhanced if we wish to continue to reap the benefits that responsible mining can bring.

Today, the mining industry in Ontario is one of the most closely regulated industries in the world, largely in part, due to the leadership role taken over the years by the MOE at the provincial level and Environment Canada at the federal level. The notion of 'sustainability' has gradually gained broad currency and acceptance by the general public, regulatory bodies and the mining industry over the past 20 years or so. However, the industry is still commonly perceived by the general public as being a 'dirty' industry which needs to clean up its act. The fact is that the days are long-gone when it was socially or legally acceptable for mining companies to conduct their business irresponsibly.

² http://www.mndm.gov.on.ca/mines/ogs/ims/facts/bulletins/production_factse.pdf

³ <http://www.oma.on.ca/en/economics/ontariosuccessstory.asp>

⁴ http://www.oma.on.ca/education/mininginontario_miningboosts.asp

Today, mining companies are willing participants in a multi-tiered environmental regulatory process that regulates all levels of mine development from exploration, through advanced exploration to development, operations and closure. The provisions of existing legislation such as the Mining Act, Ontario Water Resources Act and the Environmental Protection Act (provincial) and the Fisheries Act and Canadian Environmental Protection Act (federal) provide comprehensive environmental regulation of all aspects of mining and associated ore processing operations.

Presented below is a discussion of OMA members' understanding of key issues surrounding the Proposed Regulation. Section 2.0 provides a general discussion of the Proposed Regulation and its development process. Section 3.0 provides detailed feedback on how specific aspects of the Proposed Regulation will affect OMA members. After each discussion, the OMA's response to each issue is presented with the aim of promoting further dialogue with MOE in advance of ratification of the Proposed Regulation.

2.0 GENERAL DISCUSSION

2.1 Goals of the Proposed Regulation

The MOE continues its history of taking leadership in order to promote sustainability within the Ontario mining industry with the development of the Proposed Regulation, the overall aims of which are to be commended. OMA members' understanding of the goals of the *Toxics Reduction Act*, which will be implemented by ratification of the Proposed Regulation, as quoted directly from the MOE website, is as follows:

The Toxics Reduction Act is a cornerstone of Ontario's Toxics Reduction Strategy. The goal of the strategy is to protect the health and environment of Ontarians by reducing toxic substances in air, land, water and consumer products while fostering the green economy. The act and proposed regulation intend to encourage regulated facilities (about 2,000) to find greener alternatives to toxic substances and new technologies that are less dependent on toxics⁵.

A further stated goal of the Proposed Regulation is: ".....help prevent pollution and protect human health and the environment by reducing the use and creation of toxic substances, and inform Ontarians about toxic substances"⁶.

The Proposed Regulation proposes to achieve the above stated goals by focusing upon persuading industry to adopt a voluntary code for reducing or eliminating toxic substance emissions at all stages in the manufacturing process. This contrasts with existing provincial pollution control legislation which tends to focus upon control of end-of-pipe emissions at the tail-end of the manufacturing process.

The Proposed Regulation presents a tiered approach with thresholds based upon mass of toxic substance generated and employee hours as triggers for mining companies to implement the requirements of the Proposed Regulation. In total there will be 47 substances designated as "Toxic Substances" with the provision for further as yet unnamed substances to be designated as "Substances of Concern" at a future date.

For the Ontario mining industry, mine facilities that process minerals using chemicals to extract, refine or concentrate ore will be subject to the Proposed Regulation⁷ i.e. the physical process of extracting ore from the ground will be exempt.

⁵ <http://www.ene.gov.on.ca/en/news/2009/091801mb.php>

⁶ <http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTA2MTQ5&statusId=MTU5MTk4&language=en>

⁷ Section 6.(1)(b): http://www.ene.gov.on.ca/envision/env_req/er/documents/2009/010-7792.pdf

2.1.1 OMA Members' Response

MOE is to be commended on its commitment to further reducing and/or eliminating harmful toxic substances generated by industry in order to protect human life and the environment. Improving the general public's access to information concerning toxic substances is also beneficial, as a well informed society provides additional impetus for industry and policy makers to further reduce environmental impacts from industrial processes.

The primary concern of OMA members that operate metal smelters and refineries is the fact that the Proposed Regulation designates a number of metals, such as copper, nickel, silver, and zinc as being 'Toxic Substances'. Of these metals, nickel, copper and zinc are primary products from major mining operations located within the province. If the proposed Regulation is adopted as-is, then at a single stroke, up to 70 percent of the provinces annual mineral output (i.e. metals) with a net worth approaching \$7 billion will be re-classified as "toxic substances" with an implicit requirement for mining companies to voluntarily reduce production of what are their main end-products.

To date, OMA members who have attended MOE workshop sessions have yet to receive a clear and logical answer to the question of why metal products which are produced in huge quantities by mining companies operating in Ontario will be classified as "toxic" under the Proposed Regulation. The presence of certain metals on the Toxic Substance List lacks context from a risk assessment and product end-use perspective. It is difficult to see how the inclusion of metals and alloys is based upon rational, scientific supporting evidence, which is the basis for all other pollution control criteria at both federal and provincial levels. To retain credibility within the mining industry, MOE needs to be transparent in publishing the detailed methodologies by which the Toxic Substance List was created.

To label a substance "toxic" is no simple matter. Toxicity will vary according to the nature of exposures (inhalation, skin contact or ingestion), the form of substance to which exposure occurs and duration of exposure. This is why OMA members are strongly urging the government to refrain from the inclusion of substances based solely on consideration of their inherent toxicity, without a disciplined consideration of exposure, which is a critical element of full risk evaluation and thoughtful management of chemical substances. This is not simply an industry stance – it's an issue of science, identified by the Scientific Expert Panel that the Ministry of Environment has commissioned to provide guidance on its Toxics Reduction Strategy.

It is worthwhile to consider the practical implications of legally classifying metal products from mining as "Toxic Substances". As the demand for metal products increases, such facilities will report an increase in Toxic Substances usage/generation under the accounting methods contained in the Proposed Regulation. This could happen even though there might be an actual reduction in facility releases of Toxic Substance *waste products* because of process efficiency improvements and reductions in facility air emissions and releases to land and water. It is OMA members' concern that the potential for public confusion and misrepresentation of data collected under the Proposed Regulation are considerable. Consequently, OMA members firmly believe that facilities which manufacture or produce "Toxic Substances" as their end product(s) should be exempt from the reporting requirements for these substances, but should continue to report on other Toxic Substances included in the Proposed Regulation.

Specifically, Ontario's Toxics Reduction Scientific Expert Panel recommends that "additional effort should be directed towards listing specific metal substances...", as opposed to the current plan to group individual metals and their compounds under one heading⁸. We agree; deterring legitimate uses of metals on the basis that they have been classified as "Toxic Substances" would be highly inappropriate. While it may well be that Ontario has no intention to act officially to ban metals, we are concerned that the effect of applying the term "toxic" to metals under broad classifications such as "copper and compounds" or "zinc and compounds" will surely induce disorganized and unplanned substitution in the Ontario marketplace.

⁸ <http://www.ene.gov.on.ca/en/toxics/memorandum123108.php>

In formulating the Proposed Regulation, MOE appears to be ignoring the recommendations of its own expert panel when it comes to the creation of the Toxic Substances list; we refer to:

"Consider eliminating from Phase I some high volume, but relatively less toxic chemicals such as Aluminum and compounds, Copper and compounds, [...] Selenium and compounds, Vanadium and compounds, and Zinc and compounds, which could significantly add to reporting facilities' challenges with relatively less toxics reduction impact"⁹.

To retain credibility within industry and the scientific community, OMA members strongly urge MOE to transparently publicise the basis upon which metals are included on the Toxic Substance List.

Part of the goal of the Proposed Regulation is to encourage manufacturers to substitute existing Toxic Substances with more environmentally benign substances. This approach to toxics reduction is well established when it comes to organic chemicals. Many examples are to be found where existing petrochemical based chemicals are increasingly being replaced by less toxic water-based chemicals (e.g. in the fabric printing and dyeing industry). However, there are also high-profile cases where the substituted chemical did not turn out to be as environmentally benign as originally thought e.g. the replacement of lead in gasoline by methyl tertiary butyl ether (MTBE) in the 1980's. Since 1999 a number of US states have started phasing out MTBE due to groundwater contamination issues.

Manufacturers of plastics, rubber and other products derived from petrochemicals have some flexibility in modifying the process chemistry in order to reduce the quantities of toxic substances generated. Mining companies, however, have no control over the chemistry of the ore they mine, which typically contains numerous major and trace elements, examples of which are included in the proposed Toxic Substance List.

Based upon the inclusion of metals within the Proposed Regulation, it is OMA members' considered conclusion that adoption of the Proposed Regulation in its current form will stigmatise metal mining companies and seriously confuse the general public. It is not too much of a stretch to see sales of stainless steel appliances taking a hit, since nickel is used to manufacture stainless steel. What about that handful of change in your pocket? All Canadian coins contain nickel (and copper) with the loonie and toonie being the 'worst' offenders. Copper piping that carries potable drinking water is found in every home within the province; the list goes on.

The Toxic Substance List used in the Proposed Regulation is essentially a cut and paste of the Schedule 1 List from the existing federal National Pollutant Release Inventory (NPRI) program. The contradictory nature of aspects of the Proposed Regulation is quite striking, for example, lead is commonly found in stainless steel, brass and bronze. Lead in stainless steel would not be considered "toxic", but nickel in stainless steel would. Similarly, lead in brass and bronze alloys would not be classified as "toxic" either, but the copper components of the alloys would be classified as "toxic". These paradoxes reflect the fact that the goals of NPRI and the Proposed Regulation are divergent. NPRI is intended to document releases of pollutants, and so specific exclusions such as for lead in alloys, vanadium in alloys, or aluminum in fume or dust, do not stand out as contradictions. In contrast, the stated goal of the Proposed Regulation is to reduce the production of the Toxic Substances themselves.

By parachuting in the Schedule 1 List from NPRI, MOE has created a Toxic Substance list in the Proposed Regulation that contradicts the toxicological basis upon which such a list could reasonably be based; and so in Ontario, lead in alloys will not be "toxic" although copper in the very same alloys will be "toxic". MOE has considerable world-class toxicological and scientific resources within its Standards Development Branch. Surely this in-house expertise could be harnessed to make a scientific decision that addresses industry's concerns in an open and transparent manner? The Toxic Use Reduction Act (TURA) in Massachusetts (upon which the Proposed Regulation is based) removed certain metals from reporting requirements 15 years ago¹⁰ (and NPRI also recognizes certain unique aspects of alloys as well). The potential for public confusion over the "toxicity" of metals present in items that form part of our daily life would neither protect the environment nor enhance Ontarians' knowledge of risks associated with toxic substances of genuine concern, both of which are MOE's stated goals for the Proposed Regulation.

⁹ <http://www.ene.gov.on.ca/en/toxics/memorandum072308.php>

¹⁰ <http://www.mass.gov/dep/toxics/laws/metals.htm>

2.2 Development of the Proposed Regulation

2.2.1 Model upon which the Proposed Regulation was Based

The Proposed Regulation is based upon the Massachusetts Toxics Use Reduction Act (TURA, 1989). TURA requires Massachusetts companies that use large quantities of specific toxic chemicals to evaluate and plan for pollution prevention opportunities, implement them if practical and measure and report their results on an annual basis. They must also evaluate their efforts and update their toxics use reduction plans every other year.

According to information posted on the Massachusetts Department of Environmental Protection (MassDEP) website, between 1990 and 2005 TURA was responsible for reducing:

- Toxic chemical use by 40 percent
- Toxic by-products by 71 percent
- Toxics shipped in product by 41 percent
- On-site releases of toxics to the environment by 91 percent
- Transfers of toxics off-site for further waste management by 60 percent¹¹

2.2.1.1 OMA Members' Response

The economy of the State of Massachusetts is markedly different from that of Ontario. Latest available data for Massachusetts from 2004 reports non-fuel mineral production valued at \$US210 million consisting of clays, sand and gravel and stone with no operating metal mines¹². In choosing a legislative model to base the Proposed Regulation on, it would be preferable if additional jurisdictions, especially those with similar natural resource intensive industries to Ontario were also considered. Presented below is a very brief summary of similar legislation in other jurisdictions.

Australia

Australia implemented its National Pollutant Inventory Program (NPIP) in 1998. The NPIP is accessible through an online database which tracks emissions from industrial point sources, as well as from domestic households, small businesses and motor vehicles. As with the Proposed Regulation, the creation of the toxic substance list used in NPIP was created by a Technical Advisory Panel which viewed "*transparency and robustness*" as being the central guiding principle for developing the list which incorporated assessment of both hazard and exposure attributes when classifying a substance¹³. This contrasts with the lack of transparency displayed by MOE with regard to the creation of the Toxic Substance List in the Proposed Regulation.

Unlike the Proposed Regulation, which will largely duplicate the existing NPRI program, the NPIP operated in Australia is a joint venture between territorial / state governments and the federal government resulting in far less onerous reporting requirements for industry.

European Union

At present, the European Union does not have an all encompassing piece of legislation concerning the reduction of toxic substances. Instead, it has adopted a more piecemeal approach, with the recent adoption of the Restriction of Hazardous Substances Directive (2002/95/EC) which controls lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ether associated with manufacture of electrical and electronic equipment.

¹¹ <http://www.mass.gov/dep/toxics/tura/turaover.htm>

¹² <http://www.sec.state.ma.us/cis/cismaf/mf1c.htm>

¹³Section 1.4 in: <http://www.npi.gov.au/publications/tap/pubs/npi-tap-report.pdf>

USA

Since 1988, the US EPA has been operating its Toxics Release Inventory (TRI) Program. According to the US EPA website:

“Emergency Planning and Community Rights-to-know Act (EPCRA) Section 313 requires EPA and the States to annually collect data on releases and transfers of certain toxic chemicals from industrial facilities, and make the data available to the public in the Toxics Release Inventory (TRI). In 1990 Congress passed the Pollution Prevention Act which required that additional data on waste management and source reduction activities be reported under TRI. The goal of TRI is to empower citizens, through information, to hold companies and local governments accountable in terms of how toxic chemicals are managed”¹⁴.

This brief examination of toxic substance reduction programs run in other jurisdictions provides the following insight:

- Voluntarily toxic substance reduction programs, if properly designed and with buy in from industry, can achieve worthwhile reductions in quantities of toxic substances generated during manufacturing processes.
- Toxic substance reduction legislation in Australia and federally in the USA all focused upon the reduction of toxic substances used in manufacturing processes, or created in manufacturing processes, while leaving the end products of manufacturing exempt from the Regulations.
- TURA adopted by Massachusetts includes pure forms of certain metals on its Toxic Substance List. It is however noteworthy that at the current time, Massachusetts does not have a single operating metal mine and hence the inclusion of metal producers as a category subject to the Regulation has far less implications than is the case for Ontario. Equally noteworthy is the fact that from 1995 onwards, metal alloys of copper, nickel, chromium, cobalt and manganese were delisted from the Toxic Substance List for the purpose of exempting metalworking industries involved in bending, cutting, stamping, and extruding alloys. Pure forms of copper and silver were also delisted in 1999¹⁵.

The results of TURA quoted on the MassDEP website are impressive; however the cost of implementing the program and the cost to industry is not discussed. Published data from industry operating in Massachusetts indicates costs of “about \$US4.5 million p.a. if a company uses or manufactures chemicals at threshold amounts”. Furthermore, results of the US EPA’s federal TRI program indicate that both Connecticut and New Hampshire have experienced greater percentage toxic substance release reductions since 1988, while avoiding the additional cost burden for industry to implement TURA¹⁶.

The discussion presented above is based upon a brief desktop review of information available in the public domain. While in no way to be seen as exhaustive, it does invite the question as to whether harmonisation of the Proposed Regulation with the existing federal NPRI program (as opposed to duplication) might be a more cost-effective method for achieving a reduction of toxic substance use in Ontario.

2.2.2 Composition of Toxics Reduction Scientific Experts Panel

The Toxics Reduction Strategy (of which the Proposed Regulation is a key component) was based upon the recommendations of an expert panel whose mandate included:

“... to advise which toxics should be the focus of immediate attention, action and reductions as the new toxic reduction legislation is developed”¹⁷.

¹⁴ <http://www.epa.gov/TRI/triprogram/whatis.htm>

¹⁵ <http://www.mass.gov/dep/toxics/laws/bwp94014.htm>

¹⁶ Toxic reporting: help or hindrance?; Chemistry and Industry, Jan 5, 1998 by Michael J. Devito

¹⁷ <http://www.ene.gov.on.ca/en/toxics/terms.php>

This expert panel drew upon acknowledged experts from the fields of: medicine, environmental science, environmental law, public health and pharmacology amongst others.

2.2.2.1 OMA Members' Response

While OMA does not doubt the bone fides of the expert panel, it considers both the mandate and the composition of the expert panel to be inadequate for properly assessing both the requirements of the Proposed Regulation, as well as the consequences of its implementation for industry. Any reasonable person would conclude that an expert panel that is instrumental in developing such key environmental legislation has to include representatives from those industries that will be most affected by the Proposed Regulation.

2.2.3 Consultation Process

MOE organised eight workshop sessions located around the province with the dual aim of educating and soliciting feedback from stakeholders. OMA members attended sessions located in Guelph, Sudbury, Ottawa and Toronto.

In addition, an electronic copy of the Proposed Regulation was posted on the EBR website for a 30 day period (subsequently increased to 45 days in response to requests by stakeholders).

2.2.3.1 OMA Members' Response

Feedback collected from members concerning the adequacy of MOE's consultation process included:

- Lack of senior MOE staff in attendance who could adequately answer detailed questions.
- Lack of genuine consultation, with MOE instead relying on handouts filled in by participants.
- Lack of transparency in explaining some of the key concerns such as inclusion of metals on the Toxic Substance List.
- Too few knowledgeable MOE staff in attendance e.g. at the session in Guelph the ratio of MOE staff to participants was around 7 to 1 resulting in few opportunities to discuss concerns with MOE staff in person.
- Listing of the Proposed Regulation on the EBR website for even 45 days is considered to be too short a period given the potential ramifications for industry if the Proposed Regulation is ratified as-is.

Overall, the general consensus among OMA members was that MOE seemed to be going through the motions of holding stakeholder consultations without any real desire to solicit feedback which might influence the scope of the Proposed Regulation. The ineffectiveness of MOE's consultation process has continued to be a major concern for OMA members. It has resulted in considerable frustration and concern for those parties that will be most affected by the Proposed Regulation in that they have not had a genuine opportunity to work with MOE to ensure that the final Regulation will be workable and will meet the goals it was originally intended to achieve.

2.2.4 Integration with Existing Legislation

Metal processing operations are already subject to the National Pollutant Release Inventory (NPRI) program operated at the federal level under the *Canadian Environmental Protection Act* (CEPA). NPRI operates on a similar basis with the exception that NPRI addresses the reduction of waste emissions created during the industrial process and excludes end-products (unlike the Proposed Regulation).

2.2.4.1 OMA Members' Response

Another serious concern of OMA members is the apparent duplication of effort for metal processing operations subject to the requirements of both NPRI and the Proposed Regulation. NPRI and the Proposed Regulation largely have the same goals, namely identifying and monitoring sources of pollution

and making this information available to the public. NPRI's focus on minimising pollutant emissions generated during metal processing without stigmatising the end-products of mining is to be commended.

The regulatory burden that will be imposed by the Proposed Regulation is significantly higher than that required by NPRI due to the stipulated reporting, Toxic Substance accounting methodologies and the need to prepare Toxic Reduction Plan(s). In order to balance the regulatory burden on mining companies, the thresholds for reporting for the Proposed Regulation should therefore be higher than NPRI with the thresholds relating to emissions rather than mass manufactured, processed or otherwise used (MPO) used in NPRI.

3.0 IMPLEMENTATION OF THE PROPOSED REGULATION

Based upon OMA members' review of the Proposed Regulation and their first-hand experience with their own operations, it is concluded that implementation of the Proposed Regulation will be an onerous and costly exercise for mining companies with no readily foreseeable benefit to protecting the environment or better informing Ontarians. To put things into context: The quantity of Toxic Substances present in air emissions, which are the major source of health risk and the focus of our industry for reduction, are negligible in comparison to the quantity of Toxic Substances present in ore, recycled materials, products and waste streams (e.g. tailings, slag etc.). The Proposed Regulation and its measures drive reduction in use/production, rather than the more critical reduction of air emissions. Specific concerns with individual sections of the proposed regulation are detailed below.

3.1 Interpretation

Section 1(2)(b) – A 15 percent increase in use/production of a Toxic Substance is defined as a “significant process change” when accompanied by an “alteration to a process at the facility that uses or creates a toxic substance”; this mandates the need for additional reporting. Clarification is required concerning the definition of the word “alteration” e.g. is increased throughput of ore through a mill considered to be an alteration to the process? When a Toxic Substance is the end-product or a constituent of the ore, to allow for incremental improvement and natural variability, OMA members consider that the “increase in use” threshold should be set to a minimum of 25 percent.

3.2 Accounting

The Proposed Regulation uses a tiered approach to the classification of substances as “toxic” based upon mass used/produced and workers hours. It is possible to envisage a scenario where trace substances present in a product at concentrations below laboratory detection limits would still be designated “toxic” due to the quantity of product produced, even though the presence of the trace substance is of no realistic concern due to the negligible concentration. This would add to the reporting burden without any beneficial consequences. Instead, it is suggested that the criteria that trigger implementation of the Proposed Regulation also include a concentration threshold, as used in NPRI.

Section 10 (3)1. - Requires Toxic Substances to be tracked and quantified “using the best available method or combination of methods”. OMA members are concerned about the cost-benefit implications of having to adopt “best available methods”; for example, this might be interpreted as mandating the use of continuous emission monitors (CEM's) for all emissions, although we understand from MOE that this is not the intent of that clause. In OMA members' opinion, this should be replaced by the same terminology as in NPRI which states:

“Information required by the NPRI only needs to be reported if the facility owner/operator possesses the information or may reasonably be expected to have access to the information. NPRI does not require additional monitoring or measurement of the quantities or concentrations of substances released to the environment beyond the monitoring and measurement already required under the provisions of other laws or regulations”¹⁸.

Section 10(3)3/4 - Requires an uncertainty analysis and a record of the results for every method for each Toxic Substance and potentially could be construed to mean this has to be carried out for every stream.

¹⁸ <http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=7E467A38-1&offset=5&toc=show>

This requirement is in effect duplicated by Section 10(3)11 which requires a mass balance for the purpose of Toxic Substance accounting along with an explanation of differences (i.e. an error estimate). OMA members consider that this costly duplication of effort does not confer any additional benefit and is therefore redundant. Furthermore, OMA members feel that an uncertainty threshold should be included, which is recommended to be ± 10 percent, which should be acceptable without explanation. Changes will also be required to other clauses referencing the uncertainty analysis, e.g. 16(7). Based upon the above rationale OMA members recommend that Sub-sections 3 and 4 be removed from Section 10.

Section 10(3)11 – This Section stipulates that companies report on all processes that use, generate or release toxic substances, regardless of the amount (providing the threshold criteria requiring implementation of the Proposed Regulation are exceeded). The input equals output approach, in effect, requires companies to account for 100 percent (or nearly so) of toxic substance use, generation or release. In the mining context OMA members deal with large quantities of raw materials (ore) containing trace amounts of several of the Proposed Regulations identified Toxic Substances. This approach places a significant reporting burden on companies, especially considering the fact that any reduction efforts will be focused on those processes that will yield the greatest benefit. In OMA members' opinion, the regulatory burden is simply not justifiable given the returns. Therefore MOE is strongly encouraged to identify a *de minimus* quantity threshold so that resources are focused on those processes that account for the majority of Toxic Substances. OMA members believe that this will result in improved industry acceptance and more reliable data.

3.3 Reduction Plans

The MOE is requiring that companies go through the process of Toxic Substance accounting and development of a Toxic Substance Reduction Plan, regardless of whether companies plan to implement reduction measures. Companies unable to make meaningful reductions in their use and generation of Toxic Substances, such as those which produce or manufacture Toxic Substances as their end-products, will need to report despite the fact that the data will be of little benefit. In fact, it is conceivable that the Proposed Regulation could be counterproductive if, for instance, a chemical process improvement which increases production efficiency or yield results in an increase in Toxic Substance generation. To illustrate this point further, provincially regulated reductions in smelter sulphur dioxide emissions will result in the production of proportionally more sulphuric acid, which is designated a Toxic Substance under the Proposed Regulation.

The Proposed Regulation in its current form requires that mining companies carry out extensive accounting of designated Toxic Substances created during ore refining, while reduction of Toxic Substance emissions will be voluntary. OMA members are concerned about MOE's lack of transparency regarding potential future plans to make Toxic Substance reduction targets mandatory.

Section 12(1)(c) - Requires estimates of annual costs related to any measures that are necessary as a result of the Toxic Substance. OMA members consider this requirement to provide no measurable benefit and hence recommend it be deleted. In particular, when the Toxic Substance is a mining company's end-product (e.g. copper, nickel, cobalt, silver etc.) the required information consists of the production costs. For any impurity, the Proposed Regulation requests that costs be allocated. In OMA members' opinion, cost estimates should only be required if it is determined that no action will be taken and the only reason is that it is too expensive, otherwise, cost information should be purely voluntary.

Section 12(2) – The requirements of this Section are considered by OMA members to be overly onerous in proportion to the benefit obtained. It requires that for every Toxic Substance identified, that at least one option in each of the seven (pollution prevention planning) categories per facility is selected and then the reporter must do a huge amount of estimating of reduction targets, technical feasibility and economic assessment of those options that are deemed to be feasible. For example, if fifteen Toxic Substances are identified then that represents 105 options (for each facility). OMA members consider that the complete workload described above should only be required for those options that will actually be implemented. Economic assessments, as with providing cost information, should be purely voluntary.

Section 12(5)2 – OMA members consider that this Section represents an excessively onerous workload in relation to the benefits accrued for operations that include an on-site mill, smelter and refinery (as is the case for some OMA members); since it is understood that a Toxics Reduction Plan will be required for

each plant that has an unique NPRI number i.e. this would require preparation of three separate plans. For the above quoted example of a site where 15 Toxic Substances are identified, this would mean that MOE would require 45 plans, 45 reports, 45 certifications etc. It is OMA members' strong recommendation that a company with contiguous facilities in one city be allowed to prepare one Toxics Reduction Plan that addresses all of the facilities and Toxic Substances. There is some ambiguity here since Section 13(2) does allow one document to contain more than one Toxics Reduction Plan; however it appears that a single combined Toxics Reduction Plan could be submitted for a facility, but there is still a requirement to have separate Toxic Reduction Plans documented elsewhere.

3.4 Mandatory Reporting and Public Information

Section 18(1)4ii - In addition to the NPRI release categories, this requires specific quantities reported for Toxic Substance used, created and produced. OMA members are concerned that this may have both security and business confidentiality implications. Although this is only provided to the Director and companies can report ranges to the public, OMA members are concerned that proprietary data could become generally available via freedom of information requests.

Section 19(1) - Information is to be made available to the public on the internet by companies. This may be onerous to some members that do not have public web sites. MOE has stated that they would publish this information on their website, which raises concerns over control of information in the public domain.

Section 19(1)3 - This Section requires providing the information collected in Section 18(1)4ii. directly to the public; for the same reasons noted above, this requirement raises serious concerns regarding confidentiality of proprietary data. Section 19(2) does allow reporting of this information in ranges. It is unclear how the ranges would be set and concerns remain concerning data security.

It is significant to note that many of the attendees at the recent MOE consultation workshop held in Toronto were deeply concerned with the issue of business confidentiality. Anecdotal evidence from one attendee indicated that in Massachusetts, the majority of Freedom of Information-type requests are coming from business competitors, including offshore companies; the chemical producers' association pointed out that some of the information requested by MOE is in direct contravention of the American Homeland Security Act, i.e. if the information became available, the companies would be barred from trading in the USA.

Section 24. - Gives the Director authority to require use of electronic forms provided by MOE. At the consultation workshop carried out in Sudbury there was discussion of doing all of the reporting through the NPRI OWNERS system and adding features for the Toxics Reduction reporting. OMA members urge MOE to consult with industry representatives concerning the structure of such forms so that the onerous requirements of Section 12 are not incorporated into the forms.

OMA members' other general concern is that MOE gives the appearance of rushing ahead with implementation of the Proposed Regulation when it does not have a complete piece of legislation. The MOE stated in the EBR posting that the regulation would be amended in 2010 to add the definition/requirements of the Certified Reduction Planner and Substances of Concern after additional consultation. Both of these items are potentially contentious issues for all industries. From industry's experience with Regulation 419 (Air Pollution), there is a pattern of MOE implementing new legislation which then undergoes "minor administrative changes" which have major impacts for industry. It is understood that a similar piecemeal approach is being adopted for the proposed Greenhouse Gas Emissions Reporting Regulation. Such an uncoordinated approach to implementing significant environmental legislation creates uncertainty and additional demands on industry, which are neither in the interest of industry, the Ontario economy or MOE.

4.0 CONCLUSIONS, SUMMARY AND RECOMMENDATIONS

4.1 Conclusions

Based upon the discussion presented in this submission, OMA members strongly urge MOE to prolong the consultation period beyond 45 days in order to allow further *meaningful* consultation with representatives of the mining industry. OMA members cannot stress enough the utmost importance of MOE listening to the many and serious concerns expressed in this submission and for it to consider revising certain aspects of the Proposed Regulation in order to ensure that the demands upon industry are reasonable and are proportional to the level of benefit to all stakeholders that the Proposed Regulation is aiming to deliver.

To achieve credibility within industry and the wider scientific and regulatory communities, any toxics reduction program devised by MOE has to be based upon universally accepted principles of:

- (a) Risk based assessment
- (b) Transparent development process, with all documentation accessible to stakeholders
- (c) Expert panel reviewing program development should include representatives from government, academia, industry and public.

OMA members believe that a sector-specific phase-in approach would benefit industry, the MOE and the public. Allowing industry to conduct pilot studies at select facility(s) that are representative of the sector, will allow industry to better understand their costs and will provide MOE with real life data to help it determine how the Proposed Regulation can be improved.

4.2 Summary and Recommendations

A summary of feedback and corresponding recommendations arising out of OMA members' review of the Proposed Regulation are detailed in the table below.

SUMMARY OF OMA MEMBERS' FEEDBACK AND RECOMMENDATIONS CONCERNING THE PROPOSED REGULATION

DESCRIPTION	OMA MEMBERS' FEEDBACK	OMA MEMBERS' RECOMMENDATIONS
General		
List of Toxic Substances	Inclusion of metallic end-products of mining such as nickel, copper, aluminum etc. will neither protect the environment nor increase Ontarians awareness of toxic substances generated by industry (both stated goals of the Proposed Regulation).	Remove metals that are end-products of mining from the Toxic Substance List
Legislative model upon which the Proposed Regulation is based	The Massachusetts Toxic Use Reduction Act (1989) was designed for a state that has no home-grown metal mining industry. Consequently the inclusion of metals in TURA has no repercussions for Massachusetts industry, unlike the case in Ontario. Reported data for reduction of Toxic Substance usage in Massachusetts are impressive, but need to be viewed in the context of risk, cost-benefit and ability of existing legislation to achieve similar or better results.	Review the use of toxics reduction legislation in other jurisdictions that have similar economies biased towards resource extraction (unlike Massachusetts upon which the Proposed Regulation is based).
Composition of Scientific Expert Panel that created the list of toxic substances	The Scientific Expert Panel included representatives from public health, environmental science and medicine, but excluded the representatives from industries that will be directly affected by the implementation of the Proposed Regulation.	Mining company representatives are included in the Scientific Expert Panel.
MOE's stakeholder consultation process	Initially, the Proposed Regulation was accessible on the EBR website for comment for a 30 day period, subsequently extended to 45 days. Due to the impact that the Proposed Regulation will have upon industry in Ontario, this consultation period is considered by OMA to be too brief. MOE stakeholder consultation process has been ineffective and was largely seen by attendees to be a data collection exercise. There was an absence of meaningful dialogue and MOE failed to explain key aspects of the Proposed Regulation satisfactorily.	Extend the consultation period a further 45 days.
MOE's piecemeal approach to introducing new environmental legislation	Concerns over MOE's piecemeal approach to implementing environmental legislation which promotes uncertainty within industry and makes planning for implementation of new Regulations by industry problematic.	Delay introduction of the Proposed Regulation until it can be introduced as a complete piece of legislation.

**SUMMARY OF OMA MEMBERS' FEEDBACK AND RECOMMENDATIONS
CONCERNING THE PROPOSED REGULATION**

DESCRIPTION	OMA MEMBERS' FEEDBACK	OMA MEMBERS' RECOMMENDATIONS
General (continued)		
Integration of Proposed Regulation with existing environmental legislation	The goals of the Proposed Regulation are largely duplicated by the existing federal NPRI program.	Harmonize Ontario's efforts with those of the federal government and accept/use the data (results of assessment of toxicity) provided under the CEPA Section 71 notices for the Domestic Substances List (DSL) batches. If a substance is determined to be "CEPA toxic", then it would be included, otherwise it would be excluded from the Proposed Regulation list of toxic substances. The proposed as-of-yet undefined Substances of Concern List would then only be used in exceptional circumstances.
Implementation of the Proposed Regulation		
Interpretation	<ul style="list-style-type: none"> a. Lack of transparency regarding potential future plans to make Toxic Substance reduction targets mandatory. b. 1(2)(b) - Proposed 15 percent "increase in use" clause resulting in additional reporting requirements is set too low and does not account for natural variability in ore feed. Clarification of the definition of "alteration to the process" is required. 	<ul style="list-style-type: none"> i. Consult with industry over long-term goals for the Proposed Regulation. ii. Amend "increase in use" threshold to 25 percent and clarify the definition of "alteration to the process".
Accounting	<ul style="list-style-type: none"> c. Lack of a concentration threshold as included in NPRI. d. 10 (3)1. – Requirement for Toxic Substances to be tracked and quantified "using the best available method or combination of methods" will result in very poor cost-benefit. e. 10(3)3/4 – Duplication of methods for assessing uncertainty in estimating annual mass of Toxic Substances. No acceptable level of error allowed in mass balance estimations. Requirements are extremely onerous and expensive. f. 10(3)11 – Reporting burden from use of mass balance accounting is too onerous as it requires close to 100 percent accountability. This will take resources away from efforts to focus on the processes which account for the majority of Toxic Substance generation. 	<ul style="list-style-type: none"> Include Toxic Substance concentration threshold. Same terminology should be used as in NPRI. i. Amend Proposed Regulation to avoid duplication of effort. ii. Proposed acceptable level of error is ± 10 percent. Adoption of a <i>de minimus</i> quantity threshold for each Toxic Substance.

**SUMMARY OF OMA MEMBERS' FEEDBACK AND RECOMMENDATIONS
CONCERNING THE PROPOSED REGULATION**

DESCRIPTION	OMA MEMBERS' FEEDBACK	OMA MEMBERS' RECOMMENDATIONS
Implementation of the Proposed Regulation (continued)		
Reduction Plans	g. Redundancy in forcing a company to go through the whole process of monitoring Toxic Substances and devising Toxics Reduction Plans when a) Proposed reductions can be zero, and b) "Toxic Substance" emissions may appear to rise if production of primary metal products (e.g. nickel) increase due to industry demands.	Eliminate reporting requirements where end-products are on the Toxics Reduction List.
	h. 12(1)(c) – Redundancy in requiring estimates of annual costs related to any measures that are necessary as a result of the Toxic Substance when the substance is a product. Cost estimates should only be necessary when Reduction Plans are to be implemented, or prohibitive costs prevent reduction.	Require cost estimates only if reason for non-implementation is a cost prohibitive option.
	i. 12(2) – Excessively onerous monitoring and reporting requirements when multiple Toxic Substances are identified.	Onerous assessments should only be required for those pollution prevention planning options that will actually be implemented.
Reduction Plans (continued)	j. 12(5)2 – Streamlining of process requiring individual Toxics Reduction Plans to be prepared when multiple plant and Toxic Substances occur at one contiguous site.	Amend Proposed Regulation to allow the preparation of a single Toxics Reduction Plan for these exceptional cases.
Implementation of the Proposed Regulation (continued)		
Mandatory Reporting & Public Information	k. 18(1)4ii – Concerns over release of proprietary information under the <i>Freedom of Information Act</i> .	Strengthen safeguards to avoid publication of proprietary business information.
	l. 19(1) – Concern over access to information for proprietary information published on MOE's website.	Eliminate the requirement for proprietary information to be published on MOE website; instead provide links to company websites.
	m. 19(1)3 – Further concerns over release of proprietary information and ambiguity concerning definition of "data ranges".	Address concerns and provide clarification of the term "data ranges".
	n. 24. – Concern over design of electronic forms for reporting (based upon historical issues with reporting of electronic data to MOE).	Consult with industry over form design and usage.