

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

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History and Overview of MISA

Ontario committed to the management of persistent toxic substances with the signing of the 1987 Canada/Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA). Since then COA has been revised and renewed several times. The Municipal Industrial Strategy for Abatement (MISA) program was the provincial response to address levels of persistent toxic substances in industrial direct discharges entering Ontario's waterways. The most recent list available on MISA facilities, which is likely outdated, lists a total of 140 facilities that are regulated under nine regulations.¹

Passing the MISA Regulations

The MISA regulations are nine sector-specific regulations which set limits on toxic pollutants in wastewater that are discharged directly into a body of water by a designated industrial facility.

The regulations may set different discharge limits for specific facilities within each sector. Each parameter regulated under MISA is regulated with both a daily limit and a monthly average limit, and requires the effluent must not be toxic to fish.²

In order to establish appropriate limits, the first stage of the MISA regulations was introduced in 1988 and focused on monitoring the intake of water and outflow of wastewater from each MISA facility. The effluent levels were set after monitoring and determining what contaminants may likely or possibly be found in each sector.³ Using the information from this monitoring, a new set of regulations were passed in early to mid 1990s that set out what pollutants and at what concentration or loading could be discharged by the regulated facilities.

The second set of regulations began with the passing of a MISA regulation for the Petroleum Sector (O. Reg. 537/93) in 1993. Between 1993 and 1995, 8 other sector-specific MISA regulations were promulgated. In the end, the MISA Regulations covered the Petroleum sector (537/93), the Pulp and Paper sector (760/93), the Metal Mining sector (560/94), the Industrial Minerals sector (561/94), the Metal Casting sector (562/94), the Organic Chemical sector (63/95), the Inorganic Chemical Sector (64/95), the Iron and Steel sector (214/95) and the Electric Power Generation sector (215/95).

¹ A list of MISA regulated facilities is available at:
<<http://www.ene.gov.on.ca/envision/general/penalties/misa.htm>>.

² Ministry of the Environment. MISA (Municipal Industrial Strategy for Abatement). Main Features of MISA Industrial Regulations are described at: <<http://www.ene.gov.on.ca/envision/water/misa/index.htm>>.

³ Ministry of the Environment. *The MISA Issue Resolution Final Report: Background*, Fall 1991.

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Goals, Principles, Themes, Policy Decisions

The stated goal of the MISA project is “the virtual elimination of persistent toxic contaminants from discharges to Ontario’s waterways”⁴. Canada committed to virtual elimination of persistent toxic substances under a renewed 1978 Great Lakes Water Quality Agreement (GLWQA) with the United States, which was followed by the more detailed Canada-United States Strategy for the Virtual Elimination of Persistent Toxic Substances in the Great Lakes Basin, also known as the Great Lakes Binational Toxics Strategy. In turn Canada set out an agreement with Ontario called the Canada Ontario Agreement (COA) on the Great Lakes Basin Ecosystem which describes the roles of the two levels of government on the implementation of the GLWQA. The Ontario Ministry of the Environment (MOE) explains the link between COA and the MISA program on the MISA program web site.

With the signing of the 1987, 1994 and 2002 Canada/Ontario Agreement Respecting the Great Lakes Basin Ecosystem, Ontario committed to the management of persistent toxic substances. The Municipal Industrial Strategy for Abatement (MISA) program was the provincial response for addressing levels of persistent toxic substances in industrial direct discharges entering Ontario’s waterways.⁵

The most recent COA agreement was signed in 2007 and expires in 2010. The strategies for meeting that goal include: a. setting effluent levels for certain sector-specific pollutants; b. ensuring that industrial effluent does not kill fish; c. the development of a zero discharge list of specific persistent toxic substances; and d. requiring industry to reduce those persistent toxic substances not specifically slated for zero discharge.⁶ The three over-riding principles of the MISA regulations are described as: 1. Pollution Prevention; 2. no cross-media transfer of contaminants; and 3. zero discharge of specific toxic substances.⁷

There were a number of resolutions⁸ passed to describe the MISA program and to guide the programs developers:

“5. The best available technology (BAT) is defined to emphasize pollution prevention technologies rather than end-of-pipe treatment systems. As well, BAT may also mean chemical substitution, closed-loop systems and process changes”.

“6. Before effluent limits are imposed on an industrial sector, the economic achievability – the financial and economic consequences of setting certain effluent limits – will be considered”

“8. Net loadings (the difference between the contaminants discharged, and the contaminants already present in the water) will not be used to develop effluent limits”.

⁴ *Ibid*

⁵ Ministry of the Environment, *supra* note 2.

⁶ Ministry of the Environment, *supra* note 3.

⁷ Ministry of the Environment, *supra* note 3.

⁸ Ministry of the Environment, *supra* note 3.

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“16. Regulation requirements will be reviewed every five years with a view to establishing more stringent requirements”

These resolutions paint a fairly clear picture of the MISA program. It is intended to place pollution prevention over pollution control. The limits imposed will be influenced by the economic consequences of such a limit. Cumulative effects and net loadings will not be taken into account when determining the limits. Finally, the Ministry will review the Regulations every five years to determine if they should be made more stringent. These resolutions will be discussed further later on in this paper.

The original plan was to review the MISA regulations every five years expecting that they would become more stringent as technology improved.⁹ It appears that this has never occurred and therefore a review is long overdue. The goal of the MISA project was supposed to be achieved through the use of the Best Available Technology Economically Achievable (BATEA)¹⁰ and it was expected that the allowable effluent levels would decrease or be lowered as technology improved.¹¹

A thorough review of the MISA regulations and amendments over the years has uncovered very few changes to the regulations. Most of the amendments that did occur were in the 1990s, in the early years of MISA implementation. More details on the amendments are given in Appendix A. In summary, no changes have been made to the effluent limits in the regulations for the following sectors: Electric Power Generation, Industrial Minerals, Iron and Steel, Metal Casting, and Metal Mining. Amendments were made in 1998 to the Inorganic Chemical Sector regulation, but those changes in many cases actually weakened the allowable limits. Some amendments were made in 1995 and 1998 to the Petroleum Sector MISA regulation. In this case some of the amendments weaken the standards and some improved it. Similarly, some amendments to the Pulp and Paper Sector regulation in 1995 also involved both increases and decreases to the quality of the standards.

Given the absence of any thorough review since the MISA regulations came into force in the early 1990s, and the absence of any changes since 1998, a complete review of the nine MISA regulations is long overdue. The following submission outlines several grounds for a review of the MISA regulations.

Summary of History and Overview of MISA:

- The MISA regulations, as we know them today, were passed between 1993 and 1995
- Each sector has certain contaminants that it must monitor

⁹Ministry of the Environment, *supra* note 3.

¹⁰ David Estrin and John Swaigen, *Environment on Trial: A Guide to Ontario Environmental Law and Policy*, 3rd Edition, CIELAP, Emond Montgomery Publication Ltd., Toronto, 1993. p.545.

¹¹ *Ibid*, p.546.

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- The goal of the MISA program is the virtual elimination of persistent toxic contaminants from discharges to Ontario's waterways
- The strategies for meeting that goal include: a. setting effluent levels for certain sector-specific pollutants; b. ensuring that industrial effluent does not kill fish; c. the development of a zero discharge list of specific persistent toxic substances; and d. requiring industry to reduce those persistent toxic substances not specifically slated for zero discharge
- The three over-riding principles are: 1. Pollution Prevention; 2. no cross-media transfer of contaminants; and 3. zero discharge of specific toxic substances.
- Effluent levels will be set based on Best Available Technology Economically Achievable (BATEA)
- Best Available Technology must emphasize pollution prevention technologies, not end-of-pipe methods
- Net loadings and/or cumulative effects are not taken into account
- The limits imposed are meant to become more stringent as technology improves.

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The Need for Updating the MISA Regulations

The MISA regulations are due for review given there has been no comprehensive review of the regulations since they were brought into force. The reasons can be roughly grouped into two categories:

1. MISA goals and/or policies which were never achieved; and
2. MISA goals and/or policies which were not sufficient to protect the environment to begin with.

MISA Goals and/or Policies Which Were Never Achieved

1) Best Available Technology must emphasize pollution prevention technologies, not end-of-pipe methods.

The intention of the MISA program was to incite pollution prevention, but a thorough reading of the nine MISA regulations shows that there is in fact no pollution prevention mandated with the exception of reporting on progress towards AOX elimination for pulp and paper mills.¹² There are no specific processes facilities must follow to prevent pollution. The MISA program was supposed to require pollution prevention, but it is clear that it is simply focused on end-of-pipe pollution control. Similar findings were reported by an expert team¹³ reporting to the Ontario Minister of the Environment:

It appeared to us that there was no regulatory requirement for pollution prevention or spill prevention under Ontario environmental legislation. Generally speaking, we found no preventive regulatory framework at all. Instead, existing systems appear almost entirely reactive rather than preventive. We found no mention of required pollution prevention plans, nor of positive incentives to go beyond compliance levels.¹⁴

.....

We note that Ontario's environmental regulatory structure for air and water pollution control has typically focused on the point of discharge, rather than the point of use or creation of pollutants. Whereas the Canadian Environmental Protection Act, Part 3, Section 46, appears to empower the federal Minister of the Environment to issue notices to dischargers regarding "the release of substances into the environment at

¹² O. Reg. 760/93 s.36 and s.37 requires facilities to report on steps taken, including material substitution and process changes, to eliminate AOX from discharges.

¹³ The Industrial Pollution Action Team.

¹⁴ The Industrial Pollution Action Team: Discussion Document. July 30, 2004. Available at: <<http://www.ene.gov.on.ca/envision/techdocs/4771e.htm>>. p. 5

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any stage of their life-cycle; [and] pollution prevention”, no such provision appears to exist under the Ontario Environmental Protection Act or the Ontario Water Resources Act.¹⁵

Arguably, the new *Toxic Reduction Act* (“TRA”) mandates pollution prevention. However, closer examination of the TRA reveals that facilities in Ontario will be required to prepare plans to reduce toxics use but will not be forced to implement these plans and reduce toxic use.¹⁶ The reduction in use of toxics will be entirely voluntary under the TRA and the implementation of toxic reduction actions cited in the plans will be entirely voluntary, thus the TRA cannot be seen as a substitute for mandatory pollution prevention under MISA. Only if the TRA shifts from a voluntary approach to mandating pollution prevention for MISA facilities discharging toxics into surface water, will the TRA fill this void.

Furthermore, the MOE’s Statement of Environmental Values (SEV) states that pollution prevention will be given priority in the development of regulations:

The Ministry’s environmental protection strategy will place priority on preventing pollution and minimizing the creation of pollutants that can adversely affect the environment.¹⁷

This SEV was developed pursuant to a requirement under the *Ontario Environmental Bill of Rights* which came into force after the MISA regulations, thus the MISA regulations have never been reviewed for compliance with the SEV. This issue will be discussed further in a later section of this request.

Recommendation 1

The MISA regulations must be reviewed and amended to require MISA facilities to undertake mandatory pollution prevention planning with mandatory targets to reduce the contaminant discharges into surface waters in Ontario. The recent TRA could be used to help bolster pollution prevention for MISA regulated facilities if the facilities were required to submit and implement pollution prevention plans with measurable results. We recommend a review of the MISA regulations to requiring mandatory pollution prevention planning for MISA facilities under MISA regulations or under the TRA.

2) The limits imposed are meant to become more stringent as technology improves

¹⁵ *Ibid* .p. 6

¹⁶ General Regulation made under the Toxics Reduction Act, 2009. Information Notice. Available at: <<http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTA4Mzg4&statusId=MTYyNzk5&language=en>>.

¹⁷ See MOE’s SEV at: <<http://www.ebr.gov.on.ca/ERS-WEB-External/content/sev.jsp?pageName=sevList&subPageName=10001>>.

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The standards within MISA are based on BATEA from the time that the MISA regulations were drafted in the late 1980s and early 1990s. The standards were supposed to improve as the technology improved.

Wastewater treatment technology is constantly improving. Many technologies used today were cutting edge and expensive when the regulations were first brought into force and thus not considered BATEA. Now common place technologies that are cost effective and efficient include technologies such as membrane separation and adsorption technologies, Ultra Violet disinfection and oxidation technologies like ozone, as well as the use of wetlands to treat wastewater and wastewater reuse/recycling or closed loop technologies.

In addition, as the province mandates water use conservation and efficiency¹⁸ it may well be that the regulations need to be updated to reflect both reduction in pollution loadings obtainable through new technologies as well as water conservation and efficiency.

A review of the legislative history¹⁹ of the regulation shows that any changes to the effluent limits were made in the 1990s, and in some cases those changes weaken the limits. Since it is clear that technology must have improved in the past 15 years, it is also clear that the MISA regulations have not kept pace with new technologies.

The failure to continuously improve the standards in MISA as technologies have improved has resulted in no incentive for direct dischargers to improve treatment over the last 15 years. The 2004 MOE report titled *Industrial Pollution Action Team: Discussion Document* (IPAT report) submitted to the Minister of the Environment makes this same point:

Although Ministry staff assured us that industry in the Chemical Valley was largely in compliance with applicable legislation, it was apparent to us that there was very little incentive for the industry to move beyond regulatory requirements and the best available technology (BAT) they imply.²⁰

The IPAT report notes the intention was to review the MISA regulations on a rolling five year cycle but because that review did not happen, industry is in fact complying with regulations that are based on 20 year old technology.

In the case of the Clean Water regulations, BAT was last evaluated in the 1980s and early 1990s and may now be significantly out of date. As reflected in the report of the Ministry's MISA Issues Resolution Process (1990), the Ministry always intended that BAT would be reviewed on a five-year cycle. Such a review has not to our knowledge occurred, so we are in effect asking industries to comply

¹⁸ See recent Ontario government discussion paper. Stewardship Leadership Accountability Safeguarding and Sustaining Ontario's Water Resources for Future Generations. Proposal Paper Summer 2009. <<http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTA2Mjcx&statusId=MTU5Mzc3&language=en>>.

¹⁹ Table of Current Consolidated Regulations — Legislative History Overview. Available at: <http://www.e-laws.gov.on.ca/html/tables/regulations/elaws_t_re_tr.htm>. Last accessed September 18th, 2009 and Appendix A.

²⁰ Industrial Pollution Action Team. *supra* note 14. p.9.

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with regulations that are almost 20 years out of date. It is our view that regulatory limits should be reviewed and revised, sector by sector, on a rolling five-year cycle. The issue, in other words, is not a need to streamline the approvals process. Rather, it is that an unnecessarily complex and resource-intensive approvals process consumes resources that could perhaps better be directed to regular review and updating of regulatory limits.²¹

For some industries the MISA targets have become almost meaningless and other policies have driven industry to greater reductions than those mandated under MISA. For example, the Sarnia-Lambton Environmental Association (SLEA), an industry organization which includes major chemical and petrochemical companies in the Sarnia area, noted that its member companies are well below 50%, with many as low as 1%, of allowable MISA levels.²²

SLEA members are to be commended for exceeding MISA standards through compliance with other policies but it also shows that the MISA regulations are not reflecting BATEA. When industry groups like SLEA are acting as more stringent checks on the behaviour of their members than regulations are, it seems that something may be wrong with the regulations. It is clear in the case of MISA that BATEA is not being used to determine what the effluent release limits will be.

Recommendation 2

A review of MISA regulations must be undertaken to amend the regulatory requirements to meet the standards obtainable through present-day BATEA, as was intended when MISA was conceived and as recommended to the Minister of the Environment in the IPAT report.

3) Ontario standards are falling behind comparable jurisdictions.

The failure to update MISA regulations has allowed Ontario's approach to regulating industrial wastewater discharges to fall behind other jurisdictions such as the United States and the European Union.

European Union Approach

The European Union is working toward an *Integrated Pollution Prevention and Control* approach that focuses on "preventing, reducing and as far as possible eliminating pollution by giving priority to intervention at source and ensuring prudent management of natural resources, in compliance with the 'polluter pays' principle and the principle of

²¹ Industrial Pollution Action Team. *supra* note 14. p.9-10.

²² Sarnia Lambton Environmental Organization. *Sitelines*. October 2006. Available at: <http://www.sarnialambton.on.ca/sitelines/sitelines_sep_06/slea.htm>.

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pollution prevention” as described in a 2008 European Union Directive.²³ The integrated approach is to avoid different approaches to control emissions into air, water and soil that may encourage the shifting of pollution between media rather than protecting the environment as a whole.²⁴ The Directive states that ‘emissions limits values, parameters and equivalent technical measures should be based on best available techniques.’²⁵

The directive defines BAT as:

Best available techniques’ means the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole:

(a) ‘techniques’ shall include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;

(b) ‘available techniques’ means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator;

(c) ‘best’ means most effective in achieving a high general level of protection of the environment as a whole.²⁶

In an effort to develop and share information on BAT, the European Union has led an ambitious project to communicate BAT among its member states.²⁷ The result is a Best Available Technique Reference Document (referred to as a ‘BREF’) published by the European Commission. Although not all sectors have finalized BREFs, many sectors do and they would inform a review of the MISA regulations. The following table compares the MISA Sector regulations to the available BREF documents.

MISA Sector	MISA Regulation	EU BREF
Metal Mining	O. Reg. 560/94	Management of Tailings and Waste rock in Mining Activities - July 2004
Electric Power	O. Reg. 215/95	Large Combustion Plants - July 2006

²³ Official Journal of the European Union. Directive 2008/1/ec of the European Parliament and of the Council of January 2008. Available at: < <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:024:0008:0029:EN:PDF>>L 24/8>.

²⁴ *Ibid*, Whereas. s.8.

²⁵ *Ibid*, Whereas. s. 18 and Article 9(4).

²⁶ *Ibid*. Article 2 (12).

²⁷ European Integrated Pollution Prevention and Control (IPPC) Bureau was set up to organise an exchange of information between Member States and industry on Best Available Techniques (BAT), associated monitoring and developments in them. Available at: < <http://eippcb.jrc.es/index.html>>.

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Generation		
Industrial Minerals	O. Reg. 561/94	Cement, Lime and Magnesium Oxide Manufacturing Industries – May 2009
Inorganic Chemical	O. Reg. 64/95	Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilizers - August 2007 Large Volume Inorganic Chemicals – Solids and Others Industry - August 2007 Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector - February 2003 (under review)
Iron and Steel Manufacturing	O. Reg. 214/95	Not finalised
Metal Casting	O. Reg. 562/94	Ferrous Metal processing Industry - December 2001
Organic Chemical Manufacturing	O. Reg. 63/95	Large Volume Organic Chemical Industry - February 2003 (under review) Organic Fine Chemicals - August 2006 Common Waste Water and Waste Gas Treatment / Management Systems in the Chemical Sector - February 2003 (under review)
Petroleum	O. Reg. 537/93	Mineral Oil and Gas Refineries - February 2003 (under review)
Pulp and Paper	O. Reg. 760/93	Pulp and Paper Industry - December 2001 (under review)

Table 1: Comparison of Canada's MISA Sector regulations to the European Union's Best Available Technique References (BREFs)

A brief comparison of some of the MISA limits to those advocated by the EU through the BREF process further supports the need to review and strengthen the MISA limits. The following comparison is not comprehensive. It is a result of random review of some MISA regulations to BREF documents. A more comprehensive review should be part of the MISA review.

O. Reg 215/95 Electric Power Generating Sector

The MISA regulation fails to deal with the added impact of wet scrubbing, such as for desulphurization of air emission, on wastewater discharges. The EU BREF standard recognizes that wet scrubbers, such as for desulphurization, can raise the content of pollutants in the wastewater. The O. Reg 215/95 standard only regulates the total suspended solids, aluminum and iron content of the effluent from coal fired thermal generating stations, yet desulphurization can cause elevated levels of mercury, sulphide

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and chlorine and potentially other metals in the wastewater. Failing to recognize the added risk to water pollution of air pollution controls that use water violates one of its principles of MISA – ‘no cross media transfer’.

O. Reg 537/93 Petrochemical Sector

It is difficult to compare MISA to other jurisdictions in some cases, such as the Petrochemicals sector, because each plant has its own standards which are not easily comparable since they are not based on units of production. However, O.Reg. 537/93 does provide some reference production numbers which allows some standards to be converted to specific load. This allowed us to compare to European BREF recommend BAT to the MISA limits in O.Reg. 537/93.

Assuming a density of crude oil of 800 kg/cu.m and using the MISA reference production rates to convert MISA allowable limits into kg/day to specific load in tonnes per million tonnes (t/Mt)²⁸ of crude oil feedstock. The following table compares some of the common or similar parameters in MISA to the EU BREF.

MISA Parameter	Imperial Oil, Sarnia t/Mt processed (monthly average MISA limit)	Shell, Sarnia t/Mt (monthly average MISA limit)	EU BREF Parameter	BAT from EU²⁹ (grams/tonne processed – yearly average)²⁷
Oil and Grease	19.8	8.7	Total hydrocarbons	0.01-0.75
Ammonia plus Ammonium	13.75	6.08	Ammoniacal nitrogen	0.1-6
Total Suspended Solids	59.5	26	Suspended Solids	1-25

Table 2: Comparison of certain parameters between MISA regulations and EU's BREF.

Note: Tonnes per million tonnes processed (t/Mt) is the same as ratio as grams per tonne processed used in the EU BREF proposed BAT standards; therefore the two standards are directly comparable.

In addition the EU BREF recommends total metal concentrations for the following metals: Arsenic, Cadmium, Cobalt, Chromium, Copper, Mercury Nickel, Lead, Vanadium and Zinc. O. Reg. 537/93 does not regulate any of these pollutants.

²⁸ t/Mt is the same as ratio as g/tonne used in the EU BREF BAT standards therefore the two standards are directly comparable.

²⁹ European Commission. Integrated Pollution Prevention and Control Reference Document on Best Available Techniques for Mineral Oils and Gas Refineries, February 2003. Chapter 5, page 401.

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Based on this simple comparison it is evident that the MISA limits for Imperial Oil and Shell are much less stringent than the EU BREF loadings based on BAT although it is worth noting that the EU values are based on a yearly average where MISA sets monthly average loadings.

Once Through Cooling Water

The Industrial Pollution Action Team identified the continued use of once through cooling water by *Chemical Valley* industries as outdated technology at high risk of environmental impact without automatic diversion or secondary containment.

Once-through cooling water systems used without automatic diversion or secondary containment. Many stakeholders, in industry, government, and in the communities, expressed deep concern about continued use, and even renewed approvals, of once-through cooling water systems in unit processes where there is a high risk of environmental impact without automatic diversion or secondary containment. These approaches were identified as obsolete in the MISA studies of more than 15 years ago. These systems have a high potential for failure and associated detrimental impacts on downstream people and ecosystems unless they are separated from the environment by multiple barriers.

The EU BREF process has an entire BAT on industrial cooling systems and makes many recommendations with respect to minimizing heat and chemical emissions due to cooling, including moving to cooling towers and recirculation systems. MISA does not speak to such pollution prevention measures and instead requires monitoring for chemical constituents in cooling water.

United States ('US') Environmental Protection Agency ('EPA') Approach

The US industrial effluents are subject to state and federal controls. States must tailor their effluent discharge program to meet water quality goals. The US EPA regulates effluent discharges under the *Clean Water Act* ('CWA'). Under the CWA the EPA sets technology-based effluent guidelines which pertain to direct dischargers and industry discharging to municipal sewers. The discharge guidelines are incorporated into discharge permits in order to meet the requirements under the CWA. A permit writer must consider the potential impact of every proposed surface water discharge on the quality of the receiving water. If the technology-based standard is not sufficient to ensure that water quality standards will be attained in the receiving water the permit writer is required to develop more stringent, water quality-based effluent limits.

Arguably a similar process could occur in Ontario through the certificate of approval system whereby the MISA technology-based regulatory limits are exceeded due to water quality concerns. However, there is no legal requirement to do so, although there is policy that speaks to the need to protect areas that meet or exceed provincial water quality

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objectives and the need to improve areas that do not meet the provincial water quality objectives.³⁰

US undertakes regular reviews

The CWA requires the periodic review of existing effluent guidelines, pre-treatment standards, and standards of performance for new sources and their revision "if appropriate" or, in the case of new source performance standards, "as technology and alternatives change".

In the US there are standards pertaining to about 50 different sectors and with each sector there are often subcategories based on the different processes involved. The US prepares a biennial plan³¹ to review effluent guidelines, which often results in changes to effluent guidelines which will then be carried forward into permits.

Attempts were made to compare the US standard to MISA standards but the MISA limits are difficult to compare because they are not normalized to production like the US standards, but are rather loadings limits based on a reference production or pollutant concentrations with no reference to production. Therefore a comparison was not possible. The lack of normalization of the MISA standards also raises the issue that as production changes the MISA standards remain static and may no longer reflect the production that was in place when the limits were set. Only O.Reg. 760/93 for the pulp and paper sector contains a provision for revision of the standards based on changes in production. The only other reference to changes in production that can be found in some MISA regulations requires that a facility inform the Director if production falls below 75% of the reference rate.

Recommendation 3

MISA regulations must be reviewed and amended to ensure Ontario does not fall behind other comparable jurisdictions and become a haven for polluters. A trigger should be written into MISA requiring the standards to change as production changes or standards should be normalized to production.

4) The M in MISA never got finalized

The Municipal "M" part of MISA never came to be and thus to this date Ontario still does not have a provincial regulation that sets a standard for municipal wastewater effluent like in the United States where secondary treatment is the minimum standard.³²

³⁰Ministry of the Environment. Water Management. Policies, Guidelines and Provincial Water Quality Objectives. 1994. Available at: <http://www.ene.gov.on.ca/envision/gp/3303e.pdf> Also referred to as the "Blue Book". See Policy 1 and Policy 2.

³¹ Effluent Guideline Biennial Planning. Available at: <http://www.epa.gov/waterscience/guide/304m/index.html>.

³² Under the Clean Water Act through the permitting program. Information available at:

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In Ontario each municipal sewage treatment plant operates under a certificate of approval which sets out the effluent limits, conditions of operation and reporting requirements. The MOE publishes guidelines pertaining to sewage management in order to guide the permitting process but the lack of regulations means there is no consistency across the province with respect to the quality or level of treatment of municipal wastewater effluents. As a result some municipalities are still discharging only primary treated sewage although a pending federal regulation³³ under the *Fisheries Act* has many of them now scrambling to upgrade to secondary treatment.

The lack of regulation with respect to sewage discharges gives the impression that the province does not believe regulating this source of pollution (the largest source in Ontario of pollution to surface water) is a priority. As a result municipalities often dump raw or undertreated sewage into Ontario's waterways³⁴ and upgrading sewage systems and installing green infrastructure to reduce flows has not been a priority.

In the 2007 report titled *Doing Less With Less*, the Environmental Commissioner of Ontario (ECO) was critical of the MOE's oversight of sewage treatment plants and reported that the MOE had acknowledged that their sewage certificate of approval system is outdated. The report was critical of the MOE for not requiring municipalities to enact sewer-use by-laws and not ensuring plans are in place to reduce combined sewer overflows. In addition no comprehensive report on sewage had been released by the province in almost 15 years according to the ECO.³⁵

Recommendation 4

MISA must be reviewed and amended to incorporate a municipal sewage regulation. The extent of the municipal sewage pollution in Ontario demonstrates the need for a municipal sewage regulation. We recommend a municipal sewage regulation be drafted, and after proper public consultation, be put into force as soon as possible. The municipal sewage regulation should set limits for major pollutants in municipal sewage and be more stringent and apply to more pollutants than the anticipated federal regulation under the *Fisheries Act*.³⁶ The regulation should require reductions in sewer overflows and sewage treatment plant bypasses over time.

Industrial wastewater pollution releases in sewers

<<http://cfpub.epa.gov/npdes/techbasedpermitting/sectreat.cfm>>. Also see Title 40, Chapter 1. Environmental Protection Agency. Part 133.102 Secondary Treatment Standard and Federal Pollution Control Act, Title III, Section 301 Effluent Limitations.

³³ Environment Canada. Proposed Regulatory Framework for Wastewater. October 2007. Available at: <<http://www.ec.gc.ca/eu-ww/default.asp?lang=En&n=9F3404CF-1#Framework>>.

³⁴ Ecojustice. *Flushing Out the Truth*. 2009 <<http://www.ecojustice.ca>>.

³⁵ Environmental Commissioner of Ontario. *Doing Less With Less*. 2007. Available at: <<http://www.eco.on.ca/eng/index.php/pubs/eco-publications/doing-less-with-less/moe-s-oversight-of-municipal-sewage-systems.php>>.

³⁶ Environment Canada. *supra* note 33.

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

MISA was intended to regulate industrial pollution released into sewers by setting tough regulations for municipal effluent.³⁷ Given only about 140 industries are regulated under MISA because they release wastewater directly into surface water, most industrial wastewater is released into municipal sewers. The Ontario Ministry of the Environment has some best management practices reports for some industrial sectors to assist municipalities and industry but these are simply resource documents and not regulatory requirements.³⁸

Instead, to control municipal effluent that enters sewers, Ontario relies on municipal sewer-use by laws. Sewer-use by-laws may vary from municipality to municipality and the ability of a municipality to enforce the by-law is always questionable. There are model by-laws that municipalities can adopt such as the one developed for the Canadian Council of Ministers of the Environment.³⁹ According to the 2007 report by the Environment Commissioner, the MOE does not require municipalities to have a sewer-use by-law.⁴⁰

Sewage treatment plants are designed to treat domestic sewage, not industrial wastewater. The US has pre-treatment regulations to require control of pollutants from the industrial sewer users which may pass through or interfere with sewage treatment plants and contaminate sewage sludge.⁴¹

Recommendation 5

MISA regulations must be reviewed and amended to incorporate industrial pre-treatment requirements to prevent the release of industrial pollutants to surface water via sewage treatment plants. Pre-treating industrial wastewater for constituents that cannot be treated also ensures that industrial pollutants do not accumulate in sewage sludge.

MISA Goals and/or Policies Which Were Not Sufficient to Protect the Environment to Begin With

1) The Gap between NPRI and MISA

There is a wide gap between the contaminants regulated under MISA and the contaminants reported as released into water according to the National Pollutant Release

³⁷ Ministry of the Environment. A Policy and Program Statement of the Ontario Government on Controlling Municipal and Industrial Discharges Into Surface Waters. June 1986. page ii.

³⁸ Ministry of the Environment. <<http://www.ene.gov.on.ca/en/publications/forms/index.php#misa>>.

³⁹ Model Sewer use By-law. Model Sewer Use By-law Guidance Document. 2009. Available at: <http://www.ccme.ca/assets/pdf/pn1421_model_sewer_use_bylaw_e.pdf>.

⁴⁰ Environmental Commissioner of Ontario. *supra* note 35.

⁴¹ US EPA. National Pollution Discharge Elimination System. Pretreatment program. Available at: <http://cfpub.epa.gov/npdes/home.cfm?program_id=3>.

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

Inventory (NPRI).⁴² Below are just a few examples that demonstrate this point; as this is not intended to be a thorough analysis.

Sector	Facility Name	MISA regulated pollutants	Discharged to surface water but not regulated under MISA (based on NPRI)
Petroleum	Imperial Oil, Sarnia	Ammonia plus Ammonium, DOC, Total Phosphorus, TSS, VSS, Phenolics, Sulphide, Oil and Grease, Dioxins and Furans	Nitrate, benzene, toluene
Organic Chemicals	Nova Chemicals, Corunna	DOC, Phosphorus, TSS, Aluminium, Phenolics, Toluene, Oil and grease	Ammonia and Nitrate
Pulp and Paper	Avenor	BOD, Total Phosphorus, Total Suspended Solids, Chloroform, Toluene, Phenol, AOH, Dioxin and Furans	Ammonia, Manganese, Methane, Methanol, Ethylene Glycol
	Bowater	BOD, Total Phosphorus, TSS, Chloroform, Toluene, Phenol, AOH, Dioxin and Furan	Arsenic, Cadmium, Ammonia, Manganese, Hydrogen Sulphide, Acetaldehyde, Zinc, Ethylene Glycol, Copper
	Abitibi Consolidated	BOD, Total Phosphorus, TSS, Chloroform, Toluene, Phenol, AOH, Dioxin and Furan	Lead, PAHs, Arsenic, Hexavalent Chromium, Cadmium, Ammonia, Methanol, Manganese, Zinc
Mining	Williams Mine	Total Cyanide, Total Suspended Solids, Copper, Lead, Nickel, Zinc, Arsenic	Nitrate, Ammonia and Mercury
	Clarabelle Mill	Total Cyanide, Total Suspended Solids, Copper, Lead, Nickel, Zinc, Arsenic	Ammonia, Nitrate, Chromium, Cadmium
	Falconbridge	Total Cyanide, Total	Selenium, Manganese,

⁴² The National Pollutant Release Inventory (NPRI) is a publicly accessible inventory of pollutant releases to air, water and land and transfers for recycling. Available at: <<http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=4A577BB9-1>>.

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

	now Xstrata	Suspended Solids, Copper, Lead, Nickel, Zinc, Arsenic	Cadmium, Chromium
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Table 3: Comparison of select contaminants regulated under MISA and contaminants reported as released to water under the NPRI.

Recommendation 6

MISA regulations must be reviewed and amended to ensure that all toxic pollutants released by MISA industries are being regulated.

2) The MISA does not comply with the MOE’s SEV

MISA regulations do not take into account what is already present in a body of water when it determines what releases will be permitted. Several resolutions were passed to guide the MISA program developers and one was:

“Net loadings (the difference between the contaminants discharged, and the contaminants already present in the water) will not be used to develop effluent limits”.⁴³

MISA regulations were developed around the same time as the Ontario’s *Environmental Bill of Rights* came into force in 1994. *The Environmental Bill of Rights* requires subject Ministries like the MOE to develop a Statement of Environment Values (SEV). The resolution directly contradicts the following principles in the SEV which are supposed to guide the development of acts, regulations and policies:

The Ministry adopts an ecosystem approach to environmental protection and resource management. This approach views the ecosystem as composed of air, land, water and living organisms, including humans, and the interactions among them.

The Ministry considers the cumulative effects on the environment; the interdependence of air, land, water and living organisms; and the relationships among the environment, the economy and society.

If the MISA regulations had been reviewed they would have been brought into compliance with the MOE’s SEV but because a review never occurred, the MISA regulations do not comply with the SEV.

In addition, climate change is impacting the Great Lakes causing increases in water temperature and decreases in water levels. In order to protect the Great Lakes and other Ontario water bodies under a changing climate a precautionary approach that accounts for

⁴³ Ministry of the Environment. *supra* note 3.

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

the cumulative impacts of climate change is needed to better managing industrial wastewater effluents.

Cumulative Effects and Background Concentration

In January 2009 Ecojustice submitted an application regarding hotspots pertaining to taxed air sheds. A similar concern applies to taxed watersheds such as the Areas of Concern under the Great Lakes Water Quality Agreement (GLWQA) or areas which are not meeting the Provincial Water Quality Objectives.⁴⁴ MISA fails to account for the condition of the water body or background levels of pollutants in an already polluted watershed. MISA fails to account for the cumulative impact of multiple polluters in one watershed.

In the United States when a water body is considered impaired and technology based controls (i.e. BATEA) are inadequate to protect that waterbody, the government establishes an acceptable maximum daily loading of all of the pollutants of concern and allocates proportions to the pollution sources.⁴⁵ In essence this approach will take into account the loadings of other facility discharging to the same watershed when issuing a permit. No such requirement exists in Ontario given MISA regulations pay no regard to the nature of the water body subject to the wastewater discharges or to the cumulative impact of all the discharges in a common watershed or area.

Below are a few examples to demonstrate the need to account for the condition of a waterbody or area and the cumulative impact of multiple dischargers on a waterbody or area.

Hamilton Harbour

Hamilton Harbour is a small and almost fully enclosed bay on Lake Ontario with very little mixing, which is designated an 'Area of Concern' under the GLQWA. This designation is based on impairment of the area including concerns regarding water quality, toxic substances and contaminated sediment.⁴⁶ Yet under MISA, facilities continue to discharge pollutants, including several heavy metals, into the harbour.⁴⁷ In addition, sewage treatment plants which treat industrial wastewater are discharging into the harbour. Given the amount of industry in the Hamilton area it is almost certain that the sewage treatment plants receive a lot of industrial wastewater. Furthermore, some industries have an agreement with the City of Hamilton that allows them to discharge

⁴⁴ Ministry of the Environment. *supra* note 30.

⁴⁵ Section 202(d) of the Clean Water Act. Available at: <<http://cfpub.epa.gov/npdes/wqbasedpermitting/iwaters.cfm>>.

⁴⁶ Hamilton Harbour Area of Concern. Available at: <<http://www.ec.gc.ca/raps-pas/default.asp?lang=En&n=18AD73C1->>.

⁴⁷ See Iron and Steel O Reg 215/95 and Stelco (now US Steel), Dofasco (now Arcelor Mittel)) and NPRI data.

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

industrial wastewater that does not meet the sewer-use by-law requirements.⁴⁸ If Ontario had industrial pre-treatment requirements like the US, industrial wastewater discharged into sewers would have to meet a provincial standard.

St. Clair River

A similar situation exists along the St. Clair River with numerous industrial regulated facilities and sewage treatment plants discharging into an 'Area of Concern' under the GLWQA. According to a local industry association there are fifty-six point source discharges into the St. Clair River and its tributaries in Ontario and Michigan total 11,800,000 cubic metres of water or about 3% of the river's average daily flow.⁴⁹

MISA does not take into account the existing conditions of the waterbody or the cumulative impacts of multiple approved dischargers into the same waterbody.

Recommendation 7

MISA regulations must be reviewed and amended to comply with the MOE's SEV. Specifically, the MISA regulations must adopt an ecosystem approach to environmental protection and one of the key features of an ecosystem approach is measurement of cumulative effects. The MISA regulations must be revised to consider the cumulative effects on the environment or MISA regulated discharges, particularly in polluted or degraded watersheds or areas such as AOCs. In addition, the MISA regulations must be amended given the cumulative impacts of a changing climate on water bodies in Ontario, in particular the Great Lakes.

Summary of Reasons and Recommendations in Support of a Review of the MISA Regulations

Recommendation 1

The MISA regulations must be reviewed and amended to require MISA facilities to undertake mandatory pollution prevention planning with mandatory targets to reduce the contaminant discharges into surface waters in Ontario. The recent TRA could be used to help bolster pollution prevention for MISA regulated facilities if the facilities were required to submit and implement pollution prevention plans with measurable results. We

⁴⁸ Ruetgers Canada Inc. and US Steel. Available at: <<http://www.hamilton.ca/NR/rdonlyres/1AE63904-7C8F-4FBF-89C8-B70F9E20165C/0/May25Item62bPW09055.pdf> and <http://www.hamilton.ca/NR/rdonlyres/1E14FCEE-5355-47BA-BD43-3EC2A8063569/0/Mar02PW09016.pdf>> and <<http://www.hamilton.ca/NR/rdonlyres/1AE63904-7C8F-4FBF-89C8-B70F9E20165C/0/May25Item62bPW09055.pdf>>

⁴⁹ See SLEA web site monogram W3. Available at: <<http://www.sarniaenvironment.com/default41e8.html?s=about&q=monographs>>.

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

recommend a review of the MISA regulations to requiring mandatory pollution prevention planning for MISA facilities under MISA regulations or under the TRA.

Recommendation 2

A review of MISA regulations must be undertaken to amend the regulatory requirements to meet the standards obtainable through present-day BATEA, as was intended when MISA was conceived and as recommended to the Minister of the Environment in the IPAT report.

Recommendation 3

MISA regulations must be reviewed and amended to ensure Ontario does not fall behind other comparable jurisdictions and become a haven for polluters. A trigger should be written into MISA requiring the standards to change as production changes or standards to be normalized to production.

Recommendation 4

MISA must be reviewed and amended to incorporate a municipal sewage regulation. The extent of the municipal sewage pollution in Ontario demonstrates the need for a municipal sewage regulation. We recommend a municipal sewage regulation be drafted, and after proper public consultation, be put into force as soon as possible. The municipal sewage regulation should set limits for major pollutants in municipal sewage and be more stringent and apply to more pollutants than the anticipated federal regulation under the *Fisheries Act*.⁵⁰ The regulation should require reductions in sewer overflows and sewage treatment plant bypasses over time.

Recommendation 5

MISA regulations must be reviewed and amended to incorporate industrial pre-treatment requirements to prevent the release of industrial pollutants to surface water via sewage treatment plants. Pre-treating industrial wastewater for constituents that cannot be treated also ensures that industrial pollutants do not accumulate in sewage sludge.

Recommendation 6

MISA regulations must be reviewed and amended to ensure that all toxic substances released by MISA industries are being regulated.

Recommendation 7

⁵⁰Proposed Regulatory Framework for Municipal Wastewater Regulation. Available at: <<http://www.ec.gc.ca/eu-ww/default.asp?lang=En&n=0108BE25-1>>.

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

MISA regulations must be reviewed and amended to comply with the MOE's SEV. Specifically, the MISA regulations must adopt an ecosystem approach to environmental protection and consider the cumulative effects on the environment or MISA regulated discharges, particularly in polluted or degraded watersheds or areas such as AOCs. In addition, the MISA regulations must be amended given the cumulative impacts of a changing climate on water bodies in Ontario, in particular the Great Lakes.

We respectfully request on behalf of our clients, as permitted under section 61 of the *Environmental Bill of Rights*, the Minister of the Environment to conduct a comprehensive review and amend the MISA regulations under the *Environmental Protection Act* as recommended above.

Appendix A

Changes to Effluent Numerical Standards In MISA

Electric Power Generation Sector

NO CHANGES

Industrial Minerals Sector

NO CHANGES

Inorganic Chemical Sector

	Change	Daily Limit		Monthly Limit	
		Before	After	Before	After
General Chemical Canada Ltd (Amherstburg)	Arsenic Daily Limit	1.9 R.O 64/95	5.2 R.O 51/98		
	Mercury Daily Limit	0.016 R.O 64/95	0.026 R.O 51/98		
	Fluoride Daily & Monthly Limit	60 R.O 64/95	131 R.O 51/98	46 R.O 64/95	95 R.O 51/98

Hydro Agri Maitland	Added. New Company, Former Nutrite R. O 51/98
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Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

Liquid Carbonic Inc. (Courtright)	Removed in R.O 523/95
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	Change	Daily Limit		Monthly Limit		
		Before	After	Before	After	
Washington Mills Electro Minerals Corp. (Niagara Falls)	Total Suspended Solids	Daily & Monthly Limit	190 R.O 64/95	395 R.O 51/98	61 R.O 64/95	127 R.O 51/98
	Aluminum	Daily & Monthly Limit	2.8 R.O 64/95	6.1 R.O 51/98	1.3 R.O 64/95	2.7 R.O 51/98

Iron and Steel Manufacturing Sector

NO CHANGES

Metal Casting Sector

NO CHANGES

Metal Mining Sector

NO CHANGES

Organic Chemical Manufacturing Sector

R.O 50/98 s.2 “Schedules 1 to 11 to the Regulation are revoked and the following substituted:”. Only the changes are listed.

Bayer Inc.	Added R.O 522/95
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Cornwall Chemicals Ltd (Cornwall)	Removed R.O 50/98
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Dow Chemical Canada Inc. (Sarnia) – Vidal St.	Nitrate + Nitrite	Removed R.O 50/98
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Dupont Canada Inc. (Whitby)	Removed R.O 522/95
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**Summary of Concerns: Municipal Industrial Strategy for Abatement
(MISA) Regulations**

	Change	Daily Limit		Monthly Limit		
		Before	After	Before	After	
GE Plastics Canada (Coburg)	Total Kjeldahl Nitrogen	Daily Limit	2.4 R.O 63/95	4.0 R.O 50/98		
	DOC	Daily & Monthly Limit	7.5 R.O 63/95	14 R.O 50/98	4.2 R.O 63/95	6.9 R.O 50/98
	Antimony	Daily Limit	0.16 R.O 63/95	0.21 R.O 50/98		
	Phenolics (4AAP)	Daily & Monthly Limit	0.036 R.O 63/95	0.055 R.O 50/98	0.016 R.O 63/95	0.022 R.O 50/98
	Oil & Grease	Daily & Monthly Limit	6.0 R.O 63/95	28.2 R.O 50/98	2.9 R.O 63/95	9.9 R.O 50/98

	Change	Daily Limit		Monthly Limit		
		Before	After	Before	After	
Geon Canada Inc. (Niagara Falls)	Ammonia plus Ammonium	Daily & Monthly Limit	13 R.O 63/95	21 R.O 50/98	7.8 R.O 63/95	12 R.O 50/98
	Total Kjeldahl Nitrogen	Daily & Monthly Limit	26 R.O 63/95	38 R.O 50/98	16 R.O 63/95	24 R.O 50/98
	DOC	Daily & Monthly Limit	96 R.O 63/95	194 R.O 50/98	61 R.O 63/95	126 R.O 50/98
	Total Phosphorus	Daily & Monthly Limit	2.4 R.O 63/95	4 R.O 50/98	1.5 R.O 63/95	2.9 R.O 50/98
	Total Suspended Solids	Daily & Monthly Limit	77 R.O 63/95	91 R.O 50/98	39 R.O 63/95	50 R.O 50/98
	Oil & Grease	Daily & Monthly Limit	17 R.O 63/95	28 R.O 50/98	7.5 R.O 63/95	16 R.O 50/98

Goodyear Canada Inc. (Bowmanville)	Removed R.O 522/95
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Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

Gaurdsman Products Ltd. (Cornwall)	Removed R.O 522/95
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Imperial Oil Chemicals Division (Sarnia)	Change	Daily Limit			Monthly Limit		
		Before	After		Before	After	
DOC	Daily & Monthly Limit	420 R.O 63/95	117 R.O 50/98		270 R.O 63/95		40 R.O 50/98
Total Phosphorus	Removed R.O 50/98						
Total Suspended Solids	Daily & Monthly Limit	12 R.O 63/95	950 R.O 522/95	187 R.O 50/98	-----	470 R.O 522/95	60.7 R.O 50/98
Phenolics (4AAP)	Removed R.O 50/98						
Vinyl Chloride	Daily Limit	0.38 R.O 63/95	11 R.O 522/95				
Benzene	Daily & Monthly Limit	0.84 R.O 63/95	0.28 R.O 50/98		0.19 R.O 63/95	0.09 R.O 50/98	
Toluene	Removed R.O 50/98						
Hexachloro-butadiene	Daily Limit	0.0091 R.O 63/95	0.004 R.O 50/98				
Oil & Grease	Daily & Monthly Limit	150 R.O 63/95	17.7 R.O 50/98		72 R.O 63/95	8 R.O 50/98	

Morbern Inc. (Cornwall)	Removed R.O 522/95
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Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

Nova Chemicals Canada Ltd. (Corunna)	Change	Daily Limit		Monthly Limit	
		Before	After	Before	After
Phenolics (4AAP)	Daily & Monthly Limit	0.60 R.O 63/95	0.75 R.O 50/98	0.26 R.O 63/95	0.34 R.O 50/98

Polysar Rubber Corp. (Sarnia)	Removed R.O 522/95
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Petroleum Sector

R.O. 524/95 s.11 (1)

“Schedule 2 of the Regulation is amended by striking out the portion related to ‘PLANT: Petro-Canada Lake Ontario Refinery, Mississauga Plant’ and substituting the following:... ‘Petro-Canada, Lubricants Centre’”. Only the changes are listed.

Petro- Canada, Lubricants Centre	Change	Daily Limit		Monthly Limit	
		Before	After	Before	After
Ammonia plus Ammonium	Daily & Monthly Limit	188 R.O 537/93	161 R.O 524/95	65 R.O 537/93	56 R.O 524/95
DOC	Daily & Monthly Limit	436 R.O 537/93	374 R.O 524/95	256 R.O 537/93	220 R.O 524/95
Total Phosphorus	Monthly Limit			12 R.O 537/93	11 R.O 524/95
Total Suspended Solids	Monthly Limit			282 R.O 537/93	243 R.O 524/95
Volatile Suspended Solids	Daily & Monthly Limit	406 R.O 537/93	350 R.O 524/95	220 R.O 537/93	188 R.O 524/95
Phenolics (4AAP)	Daily & Monthly Limit	0.57 R.O 537/93	0.48 R.O 524/95	0.19 R.O 537/93	0.17 R.O 524/95
Sulphide	Daily & Monthly Limit	3.8 R.O 537/93	3.2 R.O 524/95	1.9 R.O 537/93	1.6 R.O 524/95
Oil & Grease	Daily & Monthly Limit	201 R.O 537/93	173 R.O 524/95	94 R.O 537/93	81 R.O 524/95

Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

R.O 524/95 s.11(2)

Schedule 2 of the Regulation is amended by striking out the portion related to “PLANT: Petro-Canada Lake Ontario Refinery, Oakville Plant” and substituting the following: ...Petro-Canada, Oakville Refinery”. Only the changes are listed.

	Change	Daily Limit		Monthly Limit		
		Before	After	Before	After	
Petro- Canada, Oakville Plant	Ammonia plus Ammonium	Daily & Monthly Limit	124 R.O 537/93	161 R.O 524/95	43 R.O 537/93	56 R.O 524/95
	DOC	Daily & Monthly Limit	288 R.O 537/93	374 R.O 524/95	169 R.O 537/93	219 R.O 524/95
	Total Phosphorus	Monthly Limit			8 R.O 537/93	10 R.O 524/95
	Total Suspended Solids	Monthly Limit			187 R.O 537/93	242 R.O 524/95
	Volatile Suspended Solids	Daily & Monthly Limit	269 R.O 537/93	348 R.O 524/95	145 R.O 537/93	188 R.O 524/95
	Phenolics (4AAP)	Daily & Monthly Limit	0.37 R.O 537/93	0.48 R.O 524/95	0.13 R.O 537/93	0.17 R.O 524/95
	Sulphide	Daily & Monthly Limit	2.5 R.O 537/93	3.2 R.O 524/95	1.2 R.O 537/93	1.6 R.O 524/95
	Oil & Grease	Daily & Monthly Limit	133 R.O 537/93	172 R.O 524/95	62 R.O 537/93	81 R.O 524/95

Pulp and Paper Sector

R.O 521/95 s.15

Schedules 1 to 4 of the Regulation are revoked and the following substituted. Only the changes are listed.

Provincial Papers Inc.	Renamed from Abitibi-Price Inc., Provincial Papers Division R. O 521/95
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Summary of Concerns: Municipal Industrial Strategy for Abatement (MISA) Regulations

Avenor Inc. Dryden	Added R. O 521/95
Avenor Inc. Thunder Bay	Added R. O 521/95

Boise Cascade Canada Ltd., Fort Frances	Removed R. O 521/95
Boise Cascade Canada Ltd., Kenora	Removed R. O 521/95

Canadian Pacific Forest Products, Dryden	Removed R. O 521/95
Canadian Pacific Forest Products, Thunder Bay	Removed R. O 521/95

Domtar Inc. Fine Paper Division, Cornwall				Daily Limit		Monthly Limit	
			Change	Before	After	Before	After
Adsorbable Organic Halide	Phase 1	Daily & Monthly Limit	1510 R.O 760/93	2170 R.O 521/9 5	1170 R.O 760/9 3	1680 R.O 521/95	
	Phase 2	Daily & Monthly Limit	905 R.O 760/93	1300 R.O 521/9 5	704 R.O 760/9 3	1010 R.O 521/95	
	Phase 3	Daily & Monthly Limit	483 R.O 760/93	694 R.O 521/9 5	375 R.O 760/9 3	538 R.O 521/95	

Noranda Forest Products Inc., Recycled Papers	Removed R. O 521/95
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Rainy River Forest Products Inc., Fort Frances	Added R. O 521/95
Rainy River Forest Products Inc., Kenora	Added R. O 521/95

Thorold Specialty Paper	Added R. O 521/95
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Thunder Bay Packaging Inc.	Added R. O 521/95
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