CANADIAN ENVIRONMENTAL LAW ASSOCIATION
L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT

November 2, 2009

VIA ELECTRONIC MAIL
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Re: Regulations Made Under the Toxics Reduction Act, 2009 – EBR Registry No. 010-7792

These are the submissions of the Canadian Environmental Law Association ("CELA") respecting the above matter.

CELA has made previous submissions to the Ministry of the Environment ("MOE") respecting toxics reduction. These include our: (1) August 2008 Report and Model Bill on toxics reduction; (2) September 2008 submissions on the MOE Discussion Paper on its Toxics Reduction Strategy; (3) May 2009 submissions on Bill 167, which became the *Toxics Reduction Act, 2009* ("*TRA*") under which these proposed regulations would be promulgated; and (4) July 2009 response to MOE Workbook questions respecting development of the current regulations.

The following submissions address both (1) general matters, and (2) specific provisions of the proposed regulation. Appendix A to these submissions is a chart comparing the proposed regulations with their counterparts in Massachusetts and New Jersey, where there is long experience with toxics reduction.

GENERAL MATTERS

As the MOE is aware, CELA is of the view that as the *TRA* is the first law of its kind in the nation there is a special obligation imposed upon Ontario to produce as robust a regime as possible. This is the case not only because of the benefits that can accrue to Ontario residents from toxics reduction but also because such a law will be a precedent for other provinces that might be contemplating developing such a regime. It is for this reason that CELA prepared an extensive report and drafted a model bill on the subject in advance of Ontario's introduction of the *TRA*. CELA's views on the adequacy of the *TRA* in measuring up to the standards we believe

such a law should meet are well known to MOE and need not be repeated here (See http://www.cela.ca). However, producing a robust law applies not only to the development of the Act but the regulations as well. In this regard, CELA notes that certain matters have been deferred to a subsequent regulation. These include: (1) accreditation of toxics reduction planners, (2) identifying substances of concern (i.e. non-NPRI substances that should be made subject to the requirements of the *TRA*) and (3) administrative penalties. Each of these matters is explicitly addressed in the *TRA* [ss. 4(3)(4) – planners; s. 11 – substances of concern; administrative penalties – s. 30]. Particularly the first two are integral to the success of such a law, as CELA noted in its September 2008 submissions to MOE on the province's toxics reduction strategy. Therefore, CELA urges MOE to move swiftly to develop the appropriate regulations and to have regard for our August 2008 Model Bill (Parts III, V, and VI), Report (pages 17-19, and 26-27) and our September 2008 submissions (pages 16-17, 22) on these issues. CELA also has reviewed the recommendations on the draft regulation provided by the CAW and believes they represent sound approaches to integrating worker safety concerns into the fabric of the *TRA* process and, accordingly, should be adopted by MOE. The remainder of these submissions address key elements of the draft regulation itself.

Recommendation # 1: Move swiftly to develop regulations for (1) accreditation of toxics reduction planners, (2) identifying substances of concern, and (3) administrative penalties and adopt CAW recommendations.

SPECIFIC PROVISIONS

The draft regulation addresses six matters:

- Identification of toxic substances;
- Identification of categories of facilities that are to be subject to the requirements of the law;
- Requirements relating to toxic substance accounting; toxic substance reduction plans; plan summaries; and reporting.

The following submissions address selected aspects of each of these matters.

Identifying Toxic Substances

The draft regulation indicates that with one exception (acetone) only substances listed in the National Pollutant Release Inventory under the *Canadian Environmental Protection Act, 1999* are prescribed for the purposes of the *Toxics Reduction Act, 2009* (s. 2). Furthermore, the draft regulation indicates that the initial focus would be on 47 NPRI substances and that the requirements would not apply to the remaining NPRI substances (understood to be a further 320 substances at this time) until January 1, 2012 (s. 5, and Table A).

CELA's concerns with this division of NPRI substances into two phases were noted previously in our September 2008 submissions to the MOE on the province's toxics reduction strategy document:

> "Quite simply too few substances (45 NPRI substances under proposed Schedule 1) are designated for immediate action (i.e. in Phase 1 as defined by the MOE). The 45 substances represent just 14 per cent of the total number of substances (320) that currently are subject to the NPRI. Moreover, the 45 substances represent just 1.5 percent of the total annual tonnage of emissions of NPRI reportable chemicals for the two industrial sectors (manufacturing and mineral processing) that MOE does propose to address under the new legislation (11,000 tonnes out of 717,000 tonnes). That percentage drops to about one percent of the total annual tonnage of emissions of NPRI reportable chemicals when one includes the other sectors covered by NPRI that MOE does not propose to address under the new legislation.
>
> In the respectful submission of CELA, full coverage under the proposed law (materials accounting, toxics reduction planning, and reporting) of just one percent of NPRI emissions by 2012 is simply not good enough. By contrast, any company in New Jersey or Massachusetts that is required to report emissions of substances under the Toxics Release Inventory ("TRI") under federal law in the United States must also report annually on their use and release of these chemicals to the respective state governments. Because TRI requires reporting on about 600 substances to the federal government, the New Jersey and Massachusetts laws require reporting on all 600 substances as well and did so from their inception." (footnotes omitted).

Although the number of substances has changed slightly since then (up to 47 from 45) the essential concern remains. Accordingly, CELA urges MOE to dispense with the "some today but not all until tomorrow" approach to implementing the regulation.

Recommendation # 2: Apply obligations to engage in materials accounting, toxics reduction planning, and reporting for all NPRI substances from the time the legislation comes into force.

Identifying Facilities Subject to the Law

Categories

The draft regulation indicates that the categories of regulated facilities are: (1) manufacturing, and (2) mineral processing (s. 6).

CELA's concerns with this approach were noted in our September 2008 submissions to the MOE on the province's toxics reduction strategy document:

> "The Discussion Paper indicates that the proposed legislation will apply to the manufacturing and mineral processing sectors. As noted above, the emissions covered by these two sectors would constitute approximately 75 per cent of the total emissions of all sectors reporting under the NPRI program (once all 320 NPRI chemicals are covered by the new legislation). Accordingly, MOE does not propose to capture 25 per cent of the pollutant emissions of NPRI-reporting sectors under the new law. Based on information from the Toronto Consultation this would amount to almost 200,000 tonnes of pollutants per year. This would appear to be a significant gap in coverage under the new law and a step back from NPRI itself.
>
> In the circumstances, it would appear appropriate for MOE to consider options for expanding the number of sectors to which the new law would apply. One option is for the law to cover all sectors that report to NPRI, which is recommended in the CELA Report. A further option is to consider applying the law to any industrial facility that has an approval to emit contaminants to air or deposit them on land under the *Environmental Protection Act* ("*EPA*") or discharge contaminants to water under the *Ontario Water Resources Act* ("*OWRA*")." (footnotes omitted)

Nothing has changed in the interim to cause CELA to change its views from the above.

Recommendation # 3: Expand the number of sectors to which the law would apply to all sectors that report to NPRI, including applying the law to any industrial facility possessing an approval for emission or discharge of contaminants under the *EPA* or *OWRA*.

Thresholds

The draft regulation also indicates that the substance and employee thresholds used under NPRI will apply under the *TRA, 2009* (ss. 7-9).

CELA's concerns with this approach also were noted in our September 2008 submissions to the MOE on the province's toxics reduction strategy document:

> "MOE proposes that thresholds for the designated list of toxic substances be based on those used in the NPRI program (i.e. for most designated substances use of 10,000 kg per year or more, and employment of 10 or more employees). Where NPRI has adopted lower thresholds (e.g. 5 kg for mercury) Ontario would follow suit. For smaller facilities, MOE would rely on voluntary initiatives, education and outreach.
>
> The CELA Report characterizes the default NPRI threshold of 10,000 kg as "too high" and recommends adoption of a much lower threshold (50 kilograms) for designated substances that are (1) carcinogenic, or toxic to reproduction, or that are (2) persistent, bioaccumulative, and toxic. The City of Toronto's proposed by-law proposed a 100 kg threshold as the default level for most of the substances that would be covered by that by-law.
>
> There are some very cogent and compelling reasons for MOE to lower the thresholds from those used in the NPRI program. NPRI data analyzed by the Commission for Environmental Cooperation ("CEC") for 2004 shows that many smaller facilities (i.e. those reporting total pollutant releases and transfers of less than 10,000 kg in 1998) showed substantial increases in all types of releases and transfers, in contrast with a decreasing trend for the largest facilities (i.e. those reporting more than 1,000,000 kg in 1998). The CEC also noted that facilities reporting that they undertook pollution prevention measures are generally showing greater progress in reducing their pollutant releases and transfers than those not having undertaken pollution prevention. The CEC recommended that to make better progress in reducing pollution all categories of reporting facilities should be showing decreases. Accordingly, unless MOE reduces its proposed thresholds it likely will not be capturing smaller facilities and their corresponding emissions and use of toxic substances under the proposed new legislation." (footnotes omitted)

Nothing has changed in the interim to cause CELA to change its views from the above on this issue either.

Recommendation # 4: Consider lower thresholds than those contained in NPRI at least for substances that are carcinogens, reproductive toxins, persistent and bioaccumulative.

Requirements for Toxic Substance Accounting

The draft regulation indicates that facilities subject to the Act must (1) identify their processes that use or create toxic substances that are subject to the Act [ss. 10(1)(2)], (2) track and quantify the process-level quantities of toxic substances that are used, created, transformed, destroyed,

contained in product, released, disposed of, or transferred [s. 10(3)7.9], (3) use the best methods to track and quantify (e.g. mass balance) [s. 10(3)2-5], and (4) explain for each process if the sum of inputs is not approximately equal to outputs [s. 10(3).11].

In general, CELA supports the requirement for toxic substance accounting. However, it does take issue with several of the approaches set out in the draft regulations on this issue.

Identifying Processes

The draft regulation requires that facilities focus on "processes" that use or create a toxic substance that is covered by the Act. However, "process" is neither defined in the Act nor the draft regulations. Moreover, in other jurisdictions a similar requirement focuses on "production units" (e.g. Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.44). That there is a distinction between the two concepts is apparent from review of the regulatory requirements in Massachusetts, which define both "process" and "production unit" (Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.10). Determining the appropriate level of detail of a facility to focus on with respect to toxics reduction should be a fundamental consideration in developing the regulations. Accordingly, MOE should clarify whether "processes", "production units", or both, should be identified and defined under the regulations.

Recommendation # 5: Clarify whether "processes", "production units", or both, should be identified and defined under the regulations.

Quantifications

The draft regulation requires that facilities track and quantify the process-level quantities of toxic substances that are used, created, etc. In particular, s. 10(3)9 requires that certain activities (e.g. the amount of toxic substance that is released on-site to surface waters, or on-site to land – s. 10(3)9.iii.iv) must be tracked and quantified for the purposes of determining the amount of toxic substance that leaves a process. CELA submits that the list in s. 10(3)9 be expanded to include the amount of toxic substance that is recharged to groundwater as it is not apparent that this would necessarily be covered by the other sub-items in s. 10(3)9.

Furthermore, s. 10(3)9 also requires that the amount of toxic substance that is released on-site to air be tracked and quantified (s. 10(3)9.ii). Under New Jersey's rules, the requirement is one of quantifying releases to air through both stack and fugitive emissions [New Jersey Pollution Prevention Rules, New Jersey Administrative Code, Title 7, Chapter 1K, s. 4.3(b)2.v(1)(2)]. CELA submits that the New Jersey requirement is more specific than the draft regulation and leaves less room for second-guessing whether releases of fugitive emissions are caught as well.

Recommendation # 6: Amend s. 10(3)9 to require that the amount of toxic substance that is (1) released to air through stack and fugitive emissions, and (2) recharged to groundwater be tracked and quantified for the purposes of determining the amount of a toxic substance that leaves a process.

Methods

The draft regulation indicates that facilities use the best methods to track and quantify a toxic substance. Among the methods identified to track and quantify how much of a substance enters or leaves a process is "mass balance" (s. 10(3)1.iv). However, this term is not defined in the draft regulation. CELA did define a similar term in its model bill ("materials balance") [see s. 2 of the CELA model bill]. Furthermore, the terms "enters" and "leaves" are not defined in the draft regulation. CELA did define similar terms in its model bill ("inputs" and "outputs") [see s. 2 of the CELA model bill]. CELA submits that the terms "mass balance", "enters", and "leaves" should be defined in the regulations along the lines suggested in the CELA model bill.

Recommendation # 7: Amend the draft regulations to define the terms "mass balance", "enters", and "leaves".

Explanation of Input-Output Balance

The draft regulation requires that facilities explain for each process if the sum of inputs is not approximately equal to outputs. Under Massachusetts law a similar provision requires that the facility provide "a general explanation of why there is not an approximate materials balance" (Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.33(3)). If the requirement under the draft regulation is intended to be a similar exercise then it should be described as requiring a "mass balance" (the term used in s. 10(3)1.iv).

Recommendation # 8: Amend s. 10(3)11 to read "a record shall be created describing why there is not an approximate mass balance."

Requirements for Toxic Substance Reduction Plans

The draft regulation indicates that facilities subject to the Act must ensure that, among other things, toxic substance reduction plans (1) are certified by the highest ranking employee as complying with the Act and regulations [s. 13(4)], (2) contain process flow diagrams for each process that uses or creates a toxic substance [s. 12(1)(a)], (3) describe methods used to track and quantify a toxic substance in each process [s. 12(1)(b)], (4) provide annual cost estimates associated with a toxic substance [s. 12(1)(c)], (5) identify an option for each of seven toxic substance reduction methods listed in the regulation [s. 12(2)1.2], (6) analyze for each option identified the effects of implementing the option, its technical, and economic feasibility [s. 12(2)2.3.4], and (7) are reviewed every five years [ss. 15(1)(2), 17(1)], or if, during the previous calendar year, there was a significant process change implemented at the facility [s. 15(3)].

Process Flow Diagrams for Each Process

The draft regulation requires that facilities that are subject to the Act prepare a process flow diagram for each process that uses or creates a toxic substance. CELA agrees with the proposed requirement to prepare a process flow diagram, but has concerns about whether the diagram

instead should be prepared for each production unit, as we suggested in our July 2009 submission on selected workbook questions posed by MOE at that time:

> "CELA agrees with the inclusion of process flow diagrams as a requirement of the regulations to be developed under TRA. In Massachusetts, the process flow diagram is intended to be included in the plan for each production unit at a facility [Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.44]. It is not clear that Ontario under TRA is going to require process flow diagram information in the plans at the production unit level. CELA believes such information should be required at that level and urges the Ministry to clarify its intentions in this regard at the earliest opportunity."

Since that time CELA has not heard or read anything that would cause it to change its position on this matter. Furthermore, the degree of detail respecting the content of a process flow diagram is considerable under the Massachusetts regulations [Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.44 (1)], but not that well spelled out under the draft regulation. It should be.

Recommendation # 9: Consider whether process flow diagrams should be prepared for each production unit and whether greater specificity respecting diagram content should be spelled out in the regulation.

Options Identification

The draft regulation requires that facilities that are subject to the Act identify an option for each of seven toxic substance reduction methods listed in the regulation [s. 12(2)1.2]. In general, CELA agrees with the approach. However, CELA raises at least two concerns with the regulation as drafted on this point. First, few of the seven techniques identified are defined in the regulation. Accordingly, this raises the potential for confusion and/or disagreement between MOE and facility owners about whether there has been compliance with the requirements of the regulation. In contrast, the Massachusetts regulations define each of the toxics use reduction techniques that are to be addressed by facilities [Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.10 – definition of "toxics use reduction" – and 310 CMR 50.45 (1)]. Second, while some of the options identified in the draft regulation appear to be the same as those listed, for example, under the Massachusetts regime (e.g. materials or feedstock substitution, product design or reformulation, equipment or process modification), others identified in the Massachusetts regulations do not appear to have been identified in the draft regulation (e.g. production unit modernization - [Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.10 – definition of "toxics use reduction]. In any event, due to the lack of definitions for these terms in the draft regulation it is difficult to determine.

Recommendation # 10: Define each of the options identified in s. 12(2)1.2 and consider whether further options should be added such as those defined in Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.10 – definition of toxics use reduction.

Options Analysis – Technical Feasibility

The draft regulation requires that the facility analyze for each option identified its technical feasibility with respect to the amount by which the use, creation, discharge, and product

concentration of a toxic substance is reduced at the facility [s. 12(2)3]. However, the Massachusetts regulations require that this technical feasibility analysis be performed for "each production unit" at the facility [Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.46 (1)]. The rationale for the Massachusetts approach is that the more detailed and fine-tuned the analysis, the greater the potential to find opportunities for toxics reduction at the sub-facility level. The approach of the draft regulation – i.e. at the facility level or on a facility-wide basis – would appear to be at too broad or gross a level to be useful in actually pin-pointing exactly where toxics reduction opportunities might be achieved within the facility complex.

Recommendation # 11: Amend s. 12(2)3 to require that the technical feasibility analysis be undertaken at each production unit and not simply on a facility-wide basis.

Options Analysis – Economic Feasibility

The draft regulation requires that the facility analyze for each option identified its economic feasibility, including anticipated savings and payback period from implementing an option [s. 12(2)4]. However, the Massachusetts regulations require a far more robust approach to evaluating economic feasibility, listing no fewer than nine items to be considered: (i.e. indirect and direct labour and material costs; purchase or manufacturing cost of the toxic and its alternative chemical; capital and equipment costs; storage, accumulation, treatment, disposal, and handling costs associated with toxics and byproducts; costs associated with activities required to comply with local, state, federal laws or regulations, including but not limited to, fees, taxes, and costs associated with treatment, disposal, reporting and labelling; worker health or safety costs associated with the toxic and its alternative chemical, including but not limited to, protective equipment, and lost employee time due to accidents or routine exposure to the toxic; insurance; potential liability costs that may arise from intentional, unintentional, or accidental activities or occurrences; and loss of community goodwill and product sales lost to competing non-toxic products) [Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.46A (1)].

Recommendation # 12: Amend s. 12(2)4 to require that the economic feasibility analysis to be undertaken consider each of the items listed under Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.46A(1).

Requirements for Toxic Substance Reduction Plan Summaries

The draft regulation indicates that a facility that is subject to the requirements of the Act must prepare a summary of its toxic substance reduction plan and provide it to MOE and make it available to the public via the internet and upon written request [s. 14].

Additional Contents

The draft regulation sets out additional contents for the plan summary as including a (1) copy of any statement of intent to reduce the use and creation of a toxic substance or reason for not doing so [s. 14(1)3]; (2) description of why the toxic substance is used or created at the facility [s. 14(1)4]; and (3) description of options to be implemented or statement that no option is to be implemented [s. 14(1)5, 7]. CELA has concerns with the adequacy of the information to be

provided in the plan summary. As CELA set out in our July 2009 submission on selected workbook questions posed by MOE at that time:

> "There should be more information required. Such additional information should include (1) the expected change in the use of each covered toxic substance and in the amount of each covered toxic substance generated as by-product (based on the reduction techniques chosen to be implemented), (2) the amount in kilograms by which the facility plans to decrease the use of a toxic substance, and (3) the amount in kilograms by which the facility plans to decrease the use of a toxic substance generated as a by-product. This type of information is required under MTURA regulations (see 310 CMR 50.43(3)). …"

Recommendation # 13: Amend s. 14 to require that the content of a toxic substance reduction plan summary also include the items listed under Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.43(3).

Requirements for Toxic Substance Reduction Plan Reports

The draft regulation indicates that a facility that is subject to the requirements of the Act must prepare and submit annual reports to the MOE and that some of this information also must be made available to the public (ss. 18-19).

Contents of Reports to the Public

The draft regulation requires that the facility ensure that certain of the information to be made available to the public be reported in "ranges" (i.e. the amount of the toxic substance used, created, and in a product that leaves a process) [s. 19(2) referring to s. 18(1)4.ii.A-C]. While CELA understands that information reported to the government will not be in ranges, there is a concern that only reporting ranges to the public, as opposed to actual quantities, will make it more difficult for the public to undertake time trends, or track increases or decreases in the use of toxics over time in particular communities where such facilities are located. This may diminish the relevancy of the Act to the public.

Recommendation # 14: Remove the reference to reporting only in ranges to the public under s. 19(2). Alternatively, keep the ranges extremely narrow and specific to particular toxic substances.

CONCLUSIONS AND RECOMMENDATIONS

The regulations under *TRA* need to be as robust as possible in order to make up for some shortcomings in the Act itself that CELA has identified previously. Accordingly, CELA urges MOE to adopt the recommendations set out above, which for ease of reading are reproduced in consolidated form below:

Recommendation # 1: Move swiftly to develop regulations for (1) accreditation of toxics reduction planners, (2) identifying substances of concern, and (3) administrative penalties and adopt CAW recommendations.

Recommendation # 2: Apply obligations to engage in materials accounting, toxics reduction planning, and reporting for all NPRI substances from the time the legislation comes into force.

Recommendation # 3: Expand the number of sectors to which the law would apply to all sectors that report to NPRI, including applying the law to any industrial facility possessing an approval for emission or discharge of contaminants under the *EPA* or *OWRA*.

Recommendation # 4: Consider lower thresholds than those contained in NPRI at least for substances that are carcinogens, reproductive toxins, persistent and bioaccumulative.

Recommendation # 5: Clarify whether "processes", "production units", or both, should be identified and defined under the regulations.

Recommendation # 6: Amend s. 10(3)9 to require that the amount of toxic substance that is (1) released to air through stack and fugitive emissions, and (2) recharged to groundwater be tracked and quantified for the purposes of determining the amount of a toxic substance that leaves a process.

Recommendation # 7: Amend the draft regulations to define the terms "mass balance", "enters", and "leaves".

Recommendation # 8: Amend s. 10(3)11 to read "a record shall be created describing why there is not an approximate mass balance."

Recommendation # 9: Consider whether process flow diagrams should be prepared for each production unit and whether greater specificity respecting diagram content should be spelled out in the regulation.

Recommendation # 10: Define each of the options identified in s. 12(2)1.2 and consider whether further options should be added such as those defined in Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.10 – definition of toxics use reduction.

Recommendation # 11: Amend s. 12(2)3 to require that the technical feasibility analysis be undertaken at each production unit and not simply on a facility-wide basis.

Recommendation # 12: Amend s. 12(2)4 to require that the economic feasibility analysis to be undertaken consider each of the items listed under Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.46A(1).

Recommendation # 13: Amend s. 14 to require that the content of a toxic substance reduction plan summary also include the items listed under Massachusetts Toxic Use Reduction Regulations, 310 CMR 50.43(3).

Recommendation # 14: Remove the reference to reporting only in ranges to the public under s. 19(2). Alternatively, keep the ranges extremely narrow and specific to particular toxic substances.

Yours truly,
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CELA Publication No.: 681
ISBN: 978-1-926602-35-6

APPENDIX A

Comparison Chart of Toxics Use Reduction Regulations by Jurisdiction: Ontario – Massachusetts – New Jersey

	Ontario[1]	**Massachusetts**[2]	**New Jersey**[3]	
Subject Matter				**Comments**
Substances				
Facilities	Manufacturing & Mineral Processing – relying on NAICS codes (s. 6)	Manufacturing, mining, transportation including pipelines, wholesale trade in durable & non-durable goods, services (such as automotive repairs), etc. – relying on NAICS codes	Agriculture, Forestry, Mining, Manufacturing, Transportation, Publishers, R & D Physical, Engineering, & Life Sciences, other services, Utilities, Merchant Traders & Bulk Petroleum Stations & Terminals, Waste Management & Remediation, with exceptions noted – relying on NAICS codes	Expansion of facility types covered at the state level in U.S. occurred as federal law (EPCRTKA-TRI) expanded industrial sectors. CEPA-NPRI covers more than manufacturing and mineral processing activities now and has done so for some time.
Substances Covered	All NPRI substances and 1 substance (acetone) from O. Reg. 127 (s. 2)	All TRI substances	All TRI substances. But may add additional substances (7: 1K-3.6)	
Phasing	Accounting of Phase 1 substances (47 out of over 300 on NPRI) Jan. 2010; Accounting of Phase II substances (remaining NPRI substances) beginning Jan. 2012 (s. 5)	Not aware of any phasing in of requirements in Massachusetts	Not aware of any phasing in of requirements in New Jersey	
Thresholds	NPRI thresholds substance quantity (in general 10,000 kg) & full-time employees (10) (s.9)	Relying on TRI thresholds for substance quantity and full-time employees	Relying on TRI thresholds for substance quantity and full-time employees	

[1] Source: MOE Toxics Reduction Act, 2009 Information Session, August 19, 2009; Draft Regulation, September 2009; MOE Overview of Draft Regulation, September 25, 2009.
[2] Source: Massachusetts Toxics Use Reduction Regulations, 310 CMR 50.00-50.97.
[3] Source: New Jersey Pollution Prevention Program Rules, New Jersey Administrative Code, Title 7, Chapter 1K, ss. 1.1 to 12.11

Comparison Chart of Toxics Use Reduction Regulations by Jurisdiction: Ontario – Massachusetts – New Jersey

	Ontario	**Massachusetts**	**New Jersey**	
Subject Matter				**Comments**
Accounting				
Process Flow Diagrams	Facilities to prepare process flow diagrams as part of toxic substance reduction plan (s.12)	Facilities to prepare process flow diagram for each production unit (310 CMR 50.44)	Facilities to prepare process flow diagram (may be at process level or production unit level – (7: 1k-4.3(b)(3))	Ontario not requiring accounting on a per production unit basis
Frequency	Annual (s. 10)	Annual (310 CMR 50.32-33)		
Quantification	Facilities to quantify amount of toxic substance for each process that uses or creates a toxic substance as per MOE proposed requirements (s. 10(3)7-10)	Rules set out for determining at facility amount of toxic substance manufactured, processed, or otherwise used (310 CMR 50.20)		
Methods & Data Sources	Facilities to identify methods used to determine toxic substance quantities & data sources; facilities have flexibility to determine appropriate method (s. 10(3)1-5)	Estimate methods used to determine (total amount and amount per product unit) manufactured, processed, otherwise used, generated as byproduct, released or transferred off-site (310 CMR 50.44(2))		
Materials Balance Explanation	Where inputs do not equal outputs for each process explanation necessary why sums are not approximately equal (s. 10(3)11)	Facilities must provide general explanation of why no approximate materials balance if sum of quantities manufactured, processed or otherwise used not approximately equal to the sum of quantities shipped in product & generated as byproduct (310 CMR 50.33(3))		

Comparison Chart of Toxics Use Reduction Regulations by Jurisdiction: Ontario – Massachusetts – New Jersey

	Ontario	Massachusetts	New Jersey	
Subject Matter				**Comments**
Toxics Reduction Plans				
Timing of Plans	Dec. 31 of year after facility completes 1st year of accounting (s. 5)			
Facility Information	Facilities must include basic information and may include additional information (e.g. previous toxics reduction initiatives implemented) (s. 12(5)			
Identification of Options	Facility must include at least one option from each of materials/feedstock substitution; product design/reformulation/; equipment/process modification; spill & leak prevention; on-site reuse/recycling; improved inventory management/purchasing techniques; training/improved operating practices – where facility cannot do so must explain why (s. 12(2)1-2)	Facility must consider each of the following techniques (input substitution; product reformulation; production unit redesign or modification; production unit modernization; improved operation and maintenance of production unit equipment/methods; & recycling, reuse, or extended use of toxics (310 CMR 50.45(1) & 50.10 (definition of toxics use reduction)	Facility must identify available pollution prevention options (procedures, technologies, equipment as defined in regulation to include raw material substitution, product reformulation, production process redesign or modification, in-process recycling, & improved operation and maintenance of production process equipment) (7: 1K 1.5 & -4.5(a)4)	
Feasibility Analysis	Technical (estimate of expected reductions in use/creation of toxic substance; consideration of each relationship between each option & other applicable laws) & economic analysis (analysis of total cost per year associated with use/creation of toxic substance at facility; cost savings & expected	Technical (expected reductions in amount of toxics used in each production unit, used per unit of product, generated by each production unit, or generated as by-product for each production unit) & economic (see page 8 of CELA submission for 9	Technical analysis of pollution prevention options & cost estimates based on storage & handling costs; monitoring, tracking & reporting costs; treatment costs; transportation & disposal costs; manifesting & labelling costs;	Both Massachusetts & New Jersey rules & regulations set out in great detail the economic or costs parameters to be considered as part of the feasibility analysis. The Ontario draft regulation does not.

	payback period associated with option) for each option (s. 12(2)3)	areas of consideration) evaluation (310 CMR 40.46(1) & 50.46A(1))	permit fees; liability insurance costs; raw material costs; & safety & health compliance costs (7: 1K 4.5(a)5)	
Estimates of Related Toxics Reduction	Where option to be implemented TRA requires estimate of amount by which use, creation, discharges of toxic substance will be reduced expressed in reporting unit specified for substance by NPRI as % of weight (s. 12(4)	Expected reduction in amount of toxic substance: (1) used in each production unit; (2) used per unit of product for each production unit; (3) generated by each production unit; and (4) generated as by-product per unit of product for each production unit). (310 CMR 40.46(1)	Five - year numeric goal for reducing the use of each hazardous substance (7: 1K 4.5(a)7)	
Review	Facilities must review all aspects of plan; renew certifications (i.e. highest ranking facility official & toxics reduction planner); roughly every five years (ss. 15(1)(2), 17(1))	Plans must be updated every two years (310 CMR 40.48)	Plans must be revised every five years (7: 1K-3.7); but certain information must be updated annually (7: 1K-3.8)	
Significant Process Change Review	SPC at facility would accelerate review date (SPC = addition of new process that involves the toxic substance & is distinct from existing processes &/or significant alteration to existing process involving the toxic substance) (s. 15(3))		Plan must be modified if there is a production process change (defined in 10 different ways) (7: 1K-3.9(a)1.i-vi, 2-4)	Reliance on the term "significant" in the draft Ontario regulation raises the prospect of disagreement between MOE and facilities on when that threshold has been exceeded. The New Jersey approach of specifying any of ten ways that could trigger a plan modification appears preferable.
Plan Expiry	No expiry if certain conditions met (facility prepared plan under TRA; facility did not meet thresholds for a reporting period after plan prepared; in current reporting period			

	facility does meet thresholds; previously prepared plan has not expired; & no SPC at facility in relation to the toxic substance) (ss. 21(1)(2)			
Record Retention	7 years or period covering current & previous plan for specific toxic substance, whichever is longer (s. 22)			

Comparison Chart of Toxics Use Reduction Regulations by Jurisdiction: Ontario – Massachusetts – New Jersey

	Ontario	Massachusetts	New Jersey	
Subject Matter				**Comments**
Plan Summary				
Contents	Basic facility information; list of toxic substances being used/created at facility at levels meeting prescribed thresholds; statement of intent to reduce or reason for not including statement; description of why toxic substance is used/created at facility; summary of options implemented or statement that no option to be implemented; additional information at discretion of facility (s. 14)	Certification statement; expected change in use of each covered toxic & and in amount of each covered toxic as byproduct; expected change to be based on toxic use reduction techniques chosen to be implemented described as amount in pounds by which toxics user plans to increase or decrease use of toxic; & amount in pounds by which toxics user plans to increase or decrease amount of toxic generated as byproduct; toxics use reduction techniques considered & techniques selected to be implemented (310 CMR 50.47)	Administrative information; certification; facility-level information respecting 5-year numeric goals for reducing use/generation of each hazardous substance for each targeted production process; description of, & schedule for implementing, PP techniques to be used; whether targeting decision is based on 90% of use/generation/ or releases of hazardous substance (7: 1K-5.1)	MOE considering whether no requirement necessary for facilities to identify technically feasible options in plan summary, due to industry CBI concerns
Projection of Effectiveness	Estimated resulting reductions in use/creation/discharge of toxic substance for option(s) implemented (s. 14(1) 4-5	Expected change in use of each toxic substance & amount generated as byproduct stated as increase/decrease (310 CMR 50.47 & 50.43(3))	Facility-wide and process-level information on the five-year goals for reducing the generation of hazardous substances (7: 1K-5.1(e)3, 5)	
Timing	Summaries to be submitted on dates by which plans are completed or reviewed (s. 14(4))			

Comparison Chart of Toxics Use Reduction Regulations by Jurisdiction: Ontario – Massachusetts – New Jersey

	Ontario	**Massachusetts**	**New Jersey**	
Subject Matter				**Comments**
Reports				
Frequency	By June 1 covering previous year's accounting information (s. 18(1))	By July 1 of each year.	By July 1 of each year.	
Facility Information	Basic facility information; list of toxic substances used/created at facility at levels meeting prescribed thresholds (s. 18(1))			
Summary of Accounting Results	Require inclusion of quantities of toxic substance in reporting unit specified for substance by NPRI on facility-wide basis for reporting period (used, created, contained in product, released, disposed, transferred as per NPRI) (s. 18(1))	Quantities of toxic or hazardous substance at facility that are manufactured, processed, otherwise used, generated as byproduct prior to handling, transfer, treatment, or release, and shipped as or in products from facility; Facilities must provide general explanation of why there is not an approximate materials balance if sum of quantities manufactured, processed or otherwise used is not approximately equal to the sum of quantities shipped in product and generated as byproduct (310 CMR 50.33(3))		
Comparison to Previous Reporting Periods	Include comparison of quantities to previous reporting period; provide	Report must contain information for each production unit at facility	Annual report must indicate progress made since the base year in achieving the	Ontario proposed requirement does not appear to require comparison from the base year

	explanation of reasons for changes in quantities compared to previous reporting period; indicate whether there has been a change in estimate methods; addition, removal of or any SPC to relevant processes; whether anything non-routine occurred at facility that affected data reported & explanation as to how it affected data (s. 18(1)4.iii, 5-8))	using a toxic substance including whether the use of any toxic substance or the generation of byproduct increased or decreased by more than 10% compared to the previous reporting year and/or the toxic user implemented toxics use reduction and if so identification & explanation of where in the process the change or reduction occurred, including any reduction techniques implemented (310 CMR 50.33)	use reduction and non-product output reduction goals set out in plan (7: 1K-6.1(a)1)	but only from the previous reporting period.
Assessment of Effectiveness	Include in the report: objectives/targets set in plan, if any; explanation of differences between steps described in plan & steps taken, if any; effectiveness of steps taken including effectiveness in achieving plan objectives; reductions in use, creation, discharge of toxic substance (s. 18(1)9-10))			
Public Information	Basic facility information; list of toxic substances used/created at facility at levels meeting prescribed thresholds; description of amendments made to plan during			

	reporting period (s. 19(1))			
Errors	If facility becomes aware of mistake or inaccurate information submitted to MOE, facility must resubmit correct information within 30 days; may request additional time to make correction needed (s. 23)	Facilities must advise state of gross errors in a report within 14 days of discovery & within 30 days thereafter submit corrections (310 CMR 50.32(8))		