Canadian Environmental Law Association
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June 16, 2016

Cynara Corbin
Clerk of the Standing Committee on Environment
and Sustainable Development
House of Commons
131 Queen Street, 6th Floor
Ottawa, Ontario K1A 0A^

Dear Ms Corbin:

Re: 2016 CEPA Review – CELA Response to Questions Posed by Committee Members at the May 19, 2016 Hearing and Related Matters

We are enclosing our responses to questions posed to us by Committee members at the May 19, 2016 hearing. At the invitation of the Chair, the attached also addresses certain other matters, which we either: (1) raised and wanted to expand upon, or (2) did not have an opportunity to address, before the Committee pertaining to *CEPA, 1999*. We would ask that in addition to the attached being distributed to the Committee members that it also be posted on the Committee website.

Should Committee members have any questions arising from the attached, or wish us to re-appear before the Committee to discuss this material, please feel free to contact either myself or Ms. de Leon.

Yours truly,
CANADIAN ENVIRONMENTAL LAW ASSOCIATION

Joseph F. Castrilli
Counsel

Fe de Leon
Researcher

RESPONSES TO QUESTIONS POSED BY MEMBERS OF THE HOUSE OF COMMONS STANDING COMMITTEE ON ENVIRONMENT AND SUSTAINABLE DEVELOPMENT ARISING FROM CELA TESTIMONY BEFORE THE COMMITTEE ON MAY 19, 2016 AND RELATED MATTERS

I. RESPONSES TO STANDING COMMITTEE QUESTIONS

A. Environmental Justice

CELA was asked by William Amos (Pontiac, Lib.) to provide written suggestions as to how environmental justice principles could be included in *CEPA, 1999*.

1. Summary of CELA Hearing Submissions on Environmental Justice

The following recaps what CELA said at the May 19, 2016 hearing before the Standing Committee on the issue of environmental justice:

- environmental justice principles are generally consistent with notions of greater focus on protection of populations disproportionately vulnerable to exposure to toxic substances due to race, colour, national origin, income, geographic location, age, sex, including pregnant women, infants, children, women, and seniors;

- they should be included not only in the declaratory/purpose sections of the Act, but also the substantive provisions of the statute, and reflected in the regulations as well;

- a precedent for this in Canadian law is the *Pest Control Products Act* ("*PCPA*"), which addresses similar considerations during applications for registration of new pest control products, as well as during re-evaluations, or special reviews of, existing pest control products.

2. Precedents in Canadian Law Relating to Environmental Justice

a. *Pest Control Products Act (Can.)*

Certain provisions under the *Pest Control Products Act* are consistent with limited consideration of environmental justice principles. Under section 7(7), regarding applications for registration or amendment of pest control products, the Minister must, in relation to health risks, apply appropriate margins of safety to take into account, among other relevant factors, the "different sensitivities to pest control products of major identifiable subgroups, including pregnant women, infants, children, women and seniors". Similarly, under section 11(2)(a)(iii) of the *PCPA*, in establishing maximum residue limits for a pest control product, the Minister must "consider available information" on the "different sensitivities to pest control products of major identifiable subgroups, including pregnant women, infants, children, women and seniors" and apply greater margins of safety in the case of a threshold effect. Finally, under section 19(2)(b)(ii) of the

PCPA, the Minister must, in the context of a re-evaluation or special review of a pest control product apply in relation to health risks, appropriate margins of safety to take into account the "different sensitivities to pest control products of major identifiable subgroups, including pregnant women, infants, children, women and seniors".

3. Precedents in American Law Relating to Environmental Justice

There are many examples in the United States of initiatives promoting environmental justice in a variety of environmental decision-making contexts including regulation-making, permitting, compliance, enforcement, and related measures. The proposed statutory language we have drafted below is drawn from, but not limited to, initiatives of the Environmental Protection Agency of the United States and a number of states.

4. Suggested Statutory Language on Environmental Justice for CEPA

a. Proposed amendment to the preamble to CEPA

Amend the preamble to the Act by adding the following: Whereas the Government of Canada recognizes that exposure to toxic substances can adversely affect the environment and human health of people, including vulnerable populations, it is committed to applying environmental justice principles in its decision-making.

b. Proposed amendment to the duties of the Government of Canada

Amend section 2(1) of the Act by adding a new subsection (p) as follows: apply environmental justice principles to the parts of the Act corresponding to administration, public participation, information-gathering, pollution prevention, assessment and control of toxic substances, biotechnology, waste management, environmental emergencies, federal operations and lands, aboriginal lands, enforcement, and miscellaneous matters.

c. Proposed amendment to the definitions of CEPA

Amend section 3(1) of the Act by adding the following definitions:

"environmental justice" means fair treatment and meaningful involvement of all people, including a vulnerable population, in respect of environmental and human health hazards associated with toxic substances in Canada;

"fair treatment" means no group of people, including a vulnerable population, shall bear a disproportionate risk of experiencing adverse environmental or human health effects from exposure to a toxic substance manufactured, processed, imported, or used in Canada;

"meaningful involvement" means:

(a) people, including a vulnerable population, shall have a full opportunity to participate in a decision made by the Government of Canada under this Act about a substance that may adversely affect human health or the environment;

(b) people, including a vulnerable population, shall be entitled to an opportunity to influence a decision of the Government of Canada on a substance and whether it is determined to be toxic and how it will be managed under this Act;

(c) the concerns of people, including a vulnerable population, shall be considered by the Government of Canada in the decision-making process regarding whether a substance is determined to be toxic and how it will be managed under this Act;

(d) the Government of Canada shall seek out and facilitate the involvement of people, including a vulnerable population, who may be potentially affected by a substance regarding whether it is determined to be toxic and how it will be managed under this Act;

"vulnerable population" means people who due to their condition as:

(a) infants, children, or adolescents;

(b) women, including pregnant women;

(c) seniors;

(d) individuals with a pre-existing medical condition;

(e) workers that work with a toxic substance; or

(f) people who by reason of their;

i. income;

ii. race;

iii. colour;

iv. national origin; or

v. geographic location,

are subject to a disproportionate risk of exposure to, or potential for disproportionate adverse effects from exposure to, a toxic substance.

d. Proposed amendment to authority to issue notice requiring information

Amend section 46(1) by adding a new subsection (e.1) to read: substances that, if released to the environment, may harm a vulnerable population;

e. Proposed amendment to the requirement for pollution prevention plans

Amend section 56 by adding a new subsection (2.1) to read: Notwithstanding subsection 2(c), the notice shall specify how the precautionary and environmental justice principles have been incorporated into the plan.

f. Proposed amendment to weight of evidence approach

Amend the last line of section 76.1 to read: the Ministers shall apply a weight of evidence approach and the precautionary and environmental justice principles.

g. Proposed amendment for assessment of information for a new substance

Amend section 83 by adding a new subsection (2.1) to read: In assessing information pursuant to subsections (1) and (2) the Ministers shall apply a weight of evidence approach and the precautionary and environmental justice principles.

h. Proposed amendment to the regulation-making authority

Amend section 93(1) by adding a new subsection (b.1) to read: protection of a vulnerable population from substances specified on the List of Toxic Substances in Schedule 1.

i. Other Amendments

The above proposed amendments are illustrative of the approach CELA had in mind for embedding environmental justice principles throughout *CEPA, 1999*. Other amendments in this regard may well be warranted but have not been proposed at this time.

B. Assessment Triggers and Existing Substances

CELA was asked by Francois Choquette (Drummond, NDP) to comment on what should trigger the need for an assessment of a substance under sections 70, 71, and 75(3) of *CEPA, 1999*.

1. Burden of Proof should not be on Minister

The primary problem with certain key sections of *CEPA, 1999* relating to existing substances is that they place the burden of proof on the Minister not industry for anything that is already on the market. Thus, the issue is not what should trigger an assessment of a substance so much as who

has the burden of demonstrating safety. For example, the Minister of Environment does not have the authority to request that industry conduct toxicological and other tests under section 71(1)(c) if, under section 72, the Ministers of Health and Environment do not have reason to suspect that the substance is toxic or capable of becoming toxic. This is a distinct contrast to the situation under REACH in Europe where the onus with respect to the generation of data is squarely on industry for anything that is on the market. For that matter this is a distinct contrast to the situation in Canada under the *PCPA* where, during the course of a re-evaluation of an existing agricultural chemical, the burden of persuading the Minister that the health and environmental risks are acceptable, rests with the registrant (section 19(1)(b), *PCPA*). In short, what should trigger the need for an assessment of an industrial chemical in Canada is its presence in Canada.

2. Application of More Stringent Criteria Can Defeat Overall Purposes of CEPA

A corollary to the above problem is that the Act should not allow the application of overly stringent criteria in Canada in determining the toxicity of a substance if other jurisdictions are applying less stringent criteria to determine the toxicity of the same substance. In this context, the application of more stringent criteria can have the effect of allowing chemicals to remain in commerce in Canada that are prohibited or more severely restricted in other jurisdictions. We noted examples of this problem in our pre-filed evidence (see CELA Speaking Notes, May 19, 2016, page 6, bullet 5; and CELA PowerPoint Presentation, May 19, 2016, slide 27).

II. RESPONSES TO GENERAL STANDING COMMITTEE INVITATION TO COMMENT ON OTHER MATTERS OF INTEREST OR CONCERN UNDER CEPA

CELA was invited by Mr. Amos and the Chair to provide further representations on any of the testimony heard to date. In this regard, CELA would draw to the attention of members of the Standing Committee the additional issues set out below.

A. New Substances

1. Burden of Proof should not be on Minister

The same problems that undermine the effectiveness of the *CEPA, 1999* regime respecting existing substances also impact on the Act's regime for new substances. Under 84(1)(c) the Ministers cannot request that a company provide additional information or perform tests if they do not suspect that a new substance is toxic or capable of becoming toxic. Furthermore, under section 85, the Ministers have to suspect that a significant new activity in relation to an existing substance may result in the substance becoming toxic before the Ministers can issue a notice under section 81(4) preventing a person from using the substance in the significant new activity and requiring the person to provide the Ministers with prescribed information. Coupled with the general problems of inadequate data to make a decision, and limited public involvement in the process, which we identified in our testimony before the Standing Committee (see CELA Speaking Notes, May 19, 2016, page 7, bullets 1-2; and CELA PowerPoint presentation, May 19, 2016, slides 39-44), placing the burden of proof on the Ministers as set out in these statutory provisions is not appropriate. Contrast the situation under *CEPA, 1999* with the situation under

the *PCPA* where, during the course of an application for the registration of a pest control product, the burden of persuading the Minister that the health and environmental risks are acceptable rests with the applicant for a registration (section 7(6)(a), *PCPA*).

2. Application of More Stringent Criteria Can Defeat Overall Purposes of CEPA

The concerns above regarding overly stringent criteria set out under the discussion of existing substances, also applies with respect to new substances.

B. Clarifying and Improving NPRI Information-Gathering Authority

In light of concerns that have previously been expressed about the NPRI, including (1) high reporting thresholds, (2) facility categories omitted, (3) health endpoints excluded, (4) an undefined role for the public in the process, and related concerns, all of which can lead to underestimates of substances being released to the environment, CELA proposes the following amendments to section 46 of *CEPA, 1999*:

1. Proposed Amendment to Notice Requiring Information

Amend section 46(1) by adding a new subsection (e.2) to read:

(i) substances known to cause or reasonably anticipated to cause significant adverse human health effects at concentration levels that are reasonably likely to exist beyond facility site boundaries as a result of continuous, or frequently occurring, releases;

(ii) substances known to cause or reasonably anticipated to cause in humans:

(A) cancer or teratogenic effects;

(B) serious or irreversible

(I) reproductive dysfunctions;

(II) neurological disorders;

(III) heritable genetic mutations;

(IV) endocrine disrupting characteristics; or

(V) other chronic health effects;

(iii) substances known to cause or reasonably anticipated to cause, because of:

(A) their toxicity;

(B) their persistence in the environment; or

(C) their tendency to bioaccumulate in the environment

a potentially significant adverse effect on the environment warranting reporting under this section.

2. Proposed Amendment Authorizing Petitions by the Public

Amend section 46 by adding a new subsection (9) to read:

(a) Any person may petition the Minister to add a substance or substances to the National Pollutant Release Inventory ("NPRI") established under subsection (1) on the basis of the criteria established under subsection (e.2).

(b) Within 180 days after receipt of a petition, the Minister shall take one of the following actions:

(i) add the substance or substances to the NPRI; or

(ii) publish in the *Canada Gazette*, the Environmental Registry established under section 12, and in any other manner the Minister considers appropriate, an explanation of why the petition is denied

3. Proposed Amendment on Threshold for Reporting

Amend section 46 by adding a new subsection (10) to read:

(a) The threshold amounts for purposes of reporting under this section a substance manufactured, processed, imported, or used at a facility are 1,000 kilograms of the substance per year.

(b) The Minister may establish a threshold amount for a substance lower than the amount specified in subsection (a).

C. Risk Assessment vs. Hazard Assessment

In our testimony before the Standing Committee we also indicated that it is risky to rely as *CEPA, 1999* does on a risk-based approach in regulating toxic substances. As we noted, the reality of the situation in Canada is that many hazardous substances that are available in Canadian industry or commerce and thought to have little or no exposure associated with them have proven to be very available in the Canadian environment. Using a hazard-based assessment approach that assumes there will be exposure, is more precautionary (and consistent with various sections of the Act respecting the application of the precautionary principle) than is a risk-based approach.

The proof of this concern, however, is no better demonstrated than by the trends in actual levels of toxic substances that are being released into the environment, particularly for those substances that have been determined by the government to be "CEPA-toxic" (i.e. determined by the government to meet one or more of the requirements under section 64 of the Act for being designated "toxic") and for which risk management measures have been imposed under the authority of the Act. CELA raised this issue during our testimony but was not able to provide full data demonstrating this at the time we presented our evidence to the Standing Committee. Below, we provide a series of tables all derived from the Commission for Environmental Cooperation database, to which the Government of Canada provides information under NAFTA. These tables demonstrate the extent to which even "CEPA-toxic" substances are being released to the environment in generally ever-increasing quantities.

As we noted during our testimony, the levels of releases of toxic substances we see in the six-year period (2006-2012) since the CMP process has come into effect is an indictment of the risk-based approach and a demonstration of the ineffectiveness of risk management measures that have been employed in relation to substances that the government has deemed "CEPA-toxic" under the Act.

Tables 1-8 below, report on-site and off-site releases for the period 2006-2012. The NPRI program under *CEPA, 1999* (the information source used by the CEC to identify releases in Canada), defines an "on-site" release as including a release to air, surface water, or land (spill or leak). The NPRI program defines an "off-site release" as including disposal by way of land application, storage, landfill, tailings, waste rock, or underground injection. The tables show that while releases decreased for some, and increased for other, "CEPA-toxic" substances in each of three main categories (carcinogens, reproductive and developmental toxicants, and persistent, bioaccumulative, and toxic chemicals), the overall trend for each category was increasing levels of releases of "CEPA-toxic" substances in the six-year period 2006-2012. Tables 3-8 highlight (in **boldface**) major percentage increases/decreases in releases of key substances that would be familiar to Committee members.

Table 9 looks at the rankings of certain provinces in Canada in the overall North American context (including the states of the United States but excluding the states of Mexico) in terms of 2012 releases to air of carcinogens. What Table 9 shows is that three provinces (Ontario, Alberta, and Quebec) were in the top ten out of roughly 60 provincial/state jurisdictions in the release of carcinogens to air in 2012 in North America. Table 9 also shows that Ontario, Alberta, and Quebec (with a combined population in 2012 of 25.4 million people) released more carcinogens to air (4,160,067.16 kg) than did Texas (4,019,982.76 kg with a population of roughly 26 million), the state with the number one ranking for releases of carcinogens to air in 2012 in North America. Table 9 also shows that Alberta, with less than half the population of Quebec, released more carcinogens to air than Quebec did in 2012.

Table 10 shows air releases of carcinogens for the provinces and states bordering the Great Lakes. The high quantum of releases in Ontario is not explained away by its relatively large population in comparison to its smaller state/provincial counterparts. For example, in 2012 New York had a larger population than Ontario (approximately 19.6 million vs. 13.4 million people) yet Ontario had more than nine times the quantum of releases to air of carcinogens that New

York did. Table 10 also shows that states with comparable populations to Ontario (Illinois, Ohio, and Pennsylvania) released a far lower quantum of carcinogens to air in 2012 than did Ontario. Table 10 further shows that Quebec with a significantly smaller population than at least four Great Lakes states (Illinois, Ohio, Pennsylvania, and Michigan) released significantly more carcinogens to air in 2012 than they did.

Table 1: On-site Releases of "CEPA-Toxic" Substances in Canada 2006-2012

Release Category	Quantum of Release Increase (kg)	Release Increase by Percentage
Known or Suspected Carcinogens	163,545,697.98 to 222,711,922.13	36.2
Developmental and Reproductive Toxicants	136,280,355.93 to 179,628,438.03	32.1
Persistent, Bioaccumulative and Toxic Chemicals	135,438,474.60 to 178,580,277.84	31.9

Source: CEC, Taking Stock

Table 2: On-site and off-site Releases of "CEPA-Toxic" Substances in Canada 2006-2012

Release Category	Quantum of Release Increase (kg)	Release Increase by Percentage
Known or Suspected Carcinogens	171,474,172.67 to 241,966,743.69	41.1
Developmental and Reproductive Toxicants	141,571,698.55 to 192,355,548.62	35.8
Persistent, Bioaccumulative and Toxic Chemicals	140,308,653.14 to190,601,200.25	35.8

Source: CEC, Taking Stock

Table 3: On-site Releases of "CEPA-Toxic" Carcinogens by Substance in Canada 2006-2012

Carcinogenic Substance	Quantum of Release Increase/Decrease (kg) 2006 to 2012	Release Increase (+)/ Decrease (-) by Percentage 2006 to 2012
1,2-Dichloroethane	4,827.00 to 126.10	-97.4
1,3-Butadiene	74,680.00 to 20,487.10	-72.6
Acetaldehyde	1,279,843.00 to 729,003.30	-43.0
Acrylonitrile	31,895.00 to 3,860.20	-87.9
Arsenic and/or its compounds	**13,241,009.63 to 24,381,900.21**	**+84.1**
Asbestos	**11,847,411.00 to 23,660,878.00**	**+99.7**
Benzene	1,175,873.20 to 1,093,730.90	-7.0
Benzo(A)anthracene	32,903.22 to 47,428.95	+44.1
Benzo(A)phenanthrene	37,021.67 to 22,763.84	-38.5
Benzo(A)pyrene	14,231.43 to 10,971.51	-22.9
Benzo(B)fluoranthene	28,211.81 to 13,688.56	-51.5
Benzo(J)fluoranthene	6,682.65 to 5,290.86	-20.8
Benzo(K)fluoranthene	9,279.27 to 4,128.67	-55.5
Cadmium and/or its compounds	**505,654.82 to 5,126,878.26**	**+913.9**
Carbon Tetrachloride	43.00 to 48.00	+11.6
Chromium and/or its compounds	37,082,090.84 to 24,261,541.81	-34.6
Di(2-Ethylhexyl) Phthalate	11,544.00 to 1,752.60	-84.8
Dibenz(A,J)acridine	50.01 to 2.69	-94.6
Dibenzo(A,H)anthracene	3,105.23 to 2,249.92	-27.5
Dibenzo(A,I)pyrene	119.7 to 191.22	+59.7
Dichloromethane	256,066.00 to 88,566.30	-65.4
Dioxins and Furans	0.09 to 0.04	-55.6
Ethylene Oxide	17,439.00 to 1,206.00	-93.1
Formaldehyde	2,256,685.00 to 1,245,606.50	-44.8
Hexachlorobenzene	16.72 to 7.83	-53.2
Hydrazine	1,984.00 to 1,639.00	-17.4
Indeno(1,2,3-C,D)pyrene	9,609.45 to 5,886.28	-38.7
Lead and/or its compounds	**29,358,121.36 to 66,353,879.37**	**+126.0**
Mercury and/or its compounds	**53,822.48 to 42,045.51**	**-21.9**
Naphthalene	422,433.10 to 72,312.80	-82.9
Nickel and/or its compounds	54,760,103.80 to 58,334,349.40	+6.5
Quinoline	436.00 to 3,387,878.70	+776,936
Tetrachloroethylene	30,702.00 to 146,446.40	+377.9
Thiourea	0 to 0	0
Toluene diisocyanate (Mixed Isomers)	2,048.00 to 108.5	-94.7
Trichloroethylene	596,156.00 to 37,906.10	-93.6
Vanadium and/or its compounds	10,386,562.50 to 13,606,545.70	+31.0
Vinyl Chloride	7,036.00 to 615.00	-91.3

Source: CEC, Taking Stock

Table 4: On-site and off-site Releases of "CEPA-Toxic" Carcinogens by Substance in Canada 2006-2012

Carcinogenic Substance	Quantum of Release Increase/Decrease (kg) 2006 to 2012	Release Increase (+)/ Decrease (-) by Percentage 2006 to 2012
1,2-Dichloroethane	4,827.00 to 126.10	-97.4
1,3-Butadiene	74,680.00 to 20,487.10	-72.6
Acetaldehyde	1,279,855.00 to 729,008.80	-43.0
Acrylonitrile	34,439.00 to 4,888.20	-85.8
Arsenic and/or its compounds	**13,474,902.22 to 25,161,538.54**	**+86.7**
Asbestos	**14,158,244.00 to 28,049,156.10**	**+98.1**
Benzene	1,611,229.20 to 1,831,699.80	+13.7
Benzo(A)anthracene	40,244.24 to 57,279.35	+42.3
Benzo(A)phenanthrene	42,313.42 to 42,118.64	-0.5
Benzo(A)pyrene	19,768.95 to 20,488.22	+3.6
Benzo(B)fluoranthene	41,996.09 to 23,946.70	-43.0
Benzo(J)fluoranthene	9,082.44 to 6,997.20	-23.0
Benzo(K)fluoranthene	12,404.69 to 7,226.38	-41.7
Cadmium and/or its compounds	**586,304.78 to 5,607,070.24**	**+856.3**
Carbon Tetrachloride	269.00 to 48.00	-82.1
Chromium and/or its compounds	38,242,085.64 to 27,559,500.13	-27.9
Di(2-Ethylhexyl) Phthalate	56,348.00 to 2,854.60	-94.9
Dibenz(A,J)acridine	50.63 to 2.74	-94.6
Dibenzo(A,H)anthracene	6,897.53 to 4,420.72	-35.9
Dibenzo(A,I)pyrene	163.49 to 239.56	+46.5
Dichloromethane	256,141.00 to 123,358.40	-51.8
Dioxins and Furans	0.2 to 0.08	-60.0
Ethylene Oxide	17,439.00 to 1,206.00	-93.1
Formaldehyde	2,304,911.00 to 1,256,031.80	-45.5
Hexachlorobenzene	17.81 to 11.63	-34.7
Hydrazine	1,984.00 to 1,639.00	-17.4
Indeno(1,2,3-C,D)pyrene	13,404.03 to 10,214.26	-23.8
Lead and/or its compounds	**32,125,433.95 to 72,784,001.33**	**+126.5**
Mercury and/or its compounds	**86,049.96 to 65,891.47**	**-23.4**
Naphthalene	434,551.10 to 102,074.70	-76.5
Nickel and/or its compounds	55,297,207.80 to 59,310,628.70	+7.3
Quinoline	436.00 to 3,388,338.70	+777,042
Tetrachloroethylene	31,267.00 to 194,618.00	+522.4
Thiourea	0 to 0	0
Toluene diisocyanate (Mixed Isomers)	2,048.00 to 472.5	-76.9
Trichloroethylene	597,586.00 to 38,603.10	-93.5
Vanadium and/or its compounds	10,600,486.5 to 15,557,929.90	+46.8
Vinyl Chloride	7,098.00 to 615.00	-91.3

Source: CEC, Taking Stock

Table 5: On-site Releases of "CEPA-Toxic" Reproductive and Developmental Toxicants by Substance in Canada 2006-2012

Reproductive and Developmental Toxicant	Quantum of Release Increase/Decrease (kg) 2006 to 2012	Release Increase(+)/ Decrease (-) by Percentage 2006 to 2012
1,3-Butadiene	74,680.00 to 20,487.10	-72.6
2-Methoxyethanol	1,122.00 to 15,967.60	+1323.1
Arsenic and/or its compounds	**13,241,009.63 to 24,381,900.21**	**+84.1**
Benzene	1,175,873.20 to 1,093,730.90	-7.0
Cadmium and/or its compounds	**505,654.82 to 5,126,878.26**	**+913.9**
Chromium and/or its compounds	37,082,090.84 to 24,261,541.81	-34.6
Di(2-Ethylhexyl) Phthalate	11,544.00 to 1,752.60	-84.8
Dioxins and Furans	0.09 to 0.04	-55.6
Ethylene Oxide	17,439.00 to 1,206.00	-93.1
Hexachlorobenzene	16.72 to 7.83	-53.2
Lead and/or its compounds	**29,358,121.36 to 66,353,879.37**	**+126.0**
Mercury and/or its compounds	**53,822.48 to 42,045.51**	**-21.9**
Nickel and/or its compounds	54,760,103.80 to 58,334,349.40	+6.5

Source: CEC, Taking Stock

Table 6: On-site and off-site Releases of "CEPA-Toxic" Reproductive and Developmental Toxicants by Substance in Canada 2006-2012

Reproductive and Developmental Toxicant	Quantum of Release Increase/Decrease (kg) 2006 to 2012	Release Increase(+)/ Decrease (-) by Percentage 2006 to 2012
1,3-Butadiene	74,680.00 to 20,487.10	-72.6
2-Methoxyethanol	1,122.00 to 36,989.10	+3196.7
Arsenic and/or its compounds	**13,474,902.22 to 25,161,538.54**	**+86.7**
Benzene	1,611,229.20 to 1,831,699.80	+13.7
Cadmium and/or its compounds	**586,304.78 to 5,607,070.24**	**+856.3**
Chromium and/or its compounds	38,242,085.64 to 27,559,500.13	-27.9
Di(2-Ethylhexyl) Phthalate	56,348.00 to 2,854.60	-94.9
Dioxins and Furans	0.2 to 0.08	-60.0
Ethylene Oxide	17,439.00 to 1,206.00	-93.1
Hexachlorobenzene	17.81 to 11.63	-34.7
Lead and/or its compounds	**32,125,433.95 to 72,784,001.33**	**+126.5**
Mercury and/or its compounds	**86,049.96 to 65,891.47**	**-23.4**
Nickel and/or its compounds	55,297,207.80 to 59,310,628.70	+7.3

Source: CEC, Taking Stock

Table 7: On-site Releases of "CEPA-Toxic" Persistent, Bioaccumulative and Toxic Chemicals by Substance in Canada 2006-2012

Persistent, Bioaccumulative, and Toxic Chemicals	Quantum of Release Increase/Decrease (kg) 2006 to 2012	Release Increase (+)/ Decrease (-) by Percentage 2006 to 2012
Acenaphthene	23,182.30 to 27,276.36	+17.7
Acenaphthylene	25,861.60 to 21,984.22	-15.0
Anthracene	13,968.00 to 69,487.00	+397.5
Arsenic and/or its compounds	**13,241,009.63 to 24,381,900.21**	**+84.1**
Benzo(G,H,I)perylene	12,483.41 to 8,468.53	-32.1
Cadmium and/or its compounds	**505,654.82 to 5,126,878.26**	**+913.9**
Chromium and/or its compounds	37,082,090.84 to 24,261,541.81	-34.6
Di(2-Ethylhexyl) Phthalate	11,544.00 to 1,752.60	-84.8
Dioxins and Furans	0.09 to 0.04	-55.6
Fluoranthene	76,290.42 to 58,400.59	-23.4
Fluorene	20,102.36 to 28,249.66	+40.5
Hexachlorobenzene	16.72 to 7.83	-53.2
Lead and/or its compounds	**29,358,121.36 to 66,353,879.37**	**+126.0**
Mercury and/or its compounds	**53,822.48 to 42,045.51**	**-21.9**
Naphthalene	422,433.10 to 72,312.80	-82.9
Nickel and/or its compounds	54,760,103.80 to 58,334,349.40	+6.5
Phenanthrene	186,449.72 to 210,092.21	+12.7
Pyrene	102,836.33 to 77,425.35	-24.7

Source: CEC, Taking Stock

Table 8: On-site and off-site Releases of "CEPA-Toxic" Persistent, Bioaccumulative and Toxic Chemicals by Substance in Canada 2006-2012

Persistent, Bioaccumulative, and Toxic Chemicals	Quantum of Release Increase/Decrease (kg) 2006 to 2012	Release Increase(+)/ Decrease (-) by Percentage 2006 to 2012
Acenaphthene	23,527.17 to 30,574.73	+30.0
Acenaphthylene	26,594.05 to 22,240.93	-16.4
Anthracene	14,721.00 to 72,245.30	+390.8
Arsenic and/or its compounds	**13,474,902.22 to 25,161,538.54**	**+86.7**
Benzo(G,H,I)perylene	16,908.83 to 13,286.80	-21.4
Cadmium and/or its compounds	**586,304.78 to 5,607,070.24**	**+856.3**
Chromium and/or its compounds	38,242,085.64 to 27,559,500.13	-27.9
Di(2-Ethylhexyl) Phthalate	56,348.00 to 2,854.60	-94.9
Dioxins and Furans	0.2 to 0.08	-60.0
Fluoranthene	98,386.91 to 72,340.09	-26.5
Fluorene	20,741.86 to 31,837.43	+53.5
Hexachlorobenzene	17.81 to 11.63	-34.7
Lead and/or its compounds	**32,125,433.95 to 72,784,001.33**	**+126.5**
Mercury and/or its compounds	**86,049.96 to 65,891.47**	**-23.4**
Naphthalene	434,551.10 to 102,074.70	-76.5
Nickel and/or its compounds	55,297,207.80 to 59,310,628.70	+7.3
Phenanthrene	193,709.09 to 230,239.36	+18.9
Pyrene	131,352.95 to 99,773.69	-24.0

Source: CEC, Taking Stock

Table 9: Ranking of Top Ten Provincial/State Jurisdictions in North America for Releases to Air of Carcinogens in 2012 and their Corresponding Populations

Province or State	Quantum of Release of Carcinogens to Air (kg)	Ranking (by quantum of release)	Population (millions)
Texas	4,019,982.76	1	26.0
Indiana	2,230,276.11	2	6.5
Louisiana	1,918,060.58	3	4.6
Ontario	**1,589,212.99**	**4**	**13.4**
South Carolina	1,545,742.37	5	4.7
Alberta	**1,350,762.80**	**6**	**3.9**
Tennessee	1,307,089.51	7	6.5
Quebec	**1,220,091.37**	**8**	**8.1**
Alabama	1,178.966.94	9	4.8
Georgia	1,134,090.50	10	4.5

Sources: CEC, Taking Stock; Statistics Canada; United States Census Bureau

Table 10: Provinces/States Bordering the Great Lakes by 2012 Population and Air Releases of Carcinogens

Province or State	Quantum of Release of Carcinogens to Air (kg)	Population (millions)
Indiana	2,230,276.11	6.5
Ontario	**1,589,212.99**	**13.4**
Quebec	**1,220,091.37**	**8.1**
Illinois	1,114,305.98	12.9
Ohio	955,879.89	11.6
Pennsylvania	863,564.03	12.8
Michigan	730,259.29	9.9
Minnesota	422,643.16	5.4
Wisconsin	411,036.80	5.7
New York	174,696.76	19.6

Sources: CEC, Taking Stock; Statistics Canada; United States Census Bureau

D. Requiring Substitution of Non-Chemical Alternatives as Support for Pollution Prevention

The above tables underscore the need to examine toxic substances with a view to substituting non-chemical alternatives for them where possible in order to better achieve the pollution prevention objectives of the Act. The REACH program in Europe, as well as green chemistry regulatory programs in some states of the United States (e.g. California) point the way in this regard for what should be required under *CEPA, 1999*. CELA will provide the Standing Committee with proposed statutory language for such an approach in a future supplementary submission.

E. Improving Risk Management Measures for Products

The above tables also underscore the need for risk management measures to be far more comprehensive and robust than has been the situation to date. CELA submits that any product in Canadian commerce with a Schedule 1 substance in it (i.e. containing a substance determined to be "CEPA-toxic") should automatically be the subject of risk management measures (i.e. a regulation promulgated pursuant to section 93 of the Act prohibiting the continued or a new use of the substance in any product) to ensure that the substance does not continue to impact human health or the environment. In short, section 93 of the Act should be amended to ensure such regulations are promulgated in all such circumstances.

F. Improving the Role of the Public in CEPA Enforcement

In our submissions and testimony before the Standing Committee, we noted that the role of the public in enforcement of the Act should be enhanced. In this regard, the restrictions in the Act on when a member of the public may bring an environmental protection action under section 22 should be examined by the Standing Committee with a view to their amendment. Currently, under section 22, an action cannot be commenced by an individual unless:

(1) the individual has first applied to the Minister for an investigation of an alleged offence committed under the Act (section 17);

(2) the Minister failed to conduct an investigation and report within a reasonable time (section 22(1)(a));

(3) the Minister's response to the investigation was unreasonable (section 22)(1)(b));

(4) the alleged offence "caused significant harm to the environment" (section 22(2)(b)).

Furthermore, under section 24(a) of the Act, an environmental protection action may not be brought if the alleged conduct was taken "to correct or mitigate harm or the risk of harm to the environment or to human, animal or plant life or health".

The cumulative impact of these various barriers is that there are no reported cases of an environmental protection action having been invoked by a member of the public since *CEPA, 1999* came into force in 2000. In its March 2008 report on *CEPA, 1999*, the Senate Standing Committee on Energy, Environment and Natural Resources recommended removing the need for citizens to show that an action caused significant environmental harm before being able to proceed with an environmental protection action.

CELA submits that all of the above barriers to the bringing of a section 22 environmental protection action be examined by the Standing Committee with a view to their removal.

G. Correction to Prior Testimony

In our earlier submissions to the Standing Committee we stated that only one substance has been listed in the Act's Virtual Elimination List. That statement was not correct. There are two substances on the Virtual Elimination List.