June 18, 2015

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Transmission by e-mail: ec.interdiction-prohibition.ec@ec.gc.ca

Dear Ms. Poter:

Re: NGOs response to the Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012, Vol. 149, No. 14 — April 4, 2015

The Canadian Environmental Law Association (CELA), Chemical Sensitivities Manitoba (CSM) and KAN Centre for Environment and Development are submitting the following comments in response to the proposed "*Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012"*, released in *Canada Gazette,* Part I , April 2015. [1]

The Prohibition of Certain Toxic Substances Regulations 2012, developed under the *Canadian Environmental Protection Act* 1999 (CEPA 1999), came into force in 2013. They prohibit the manufacture, use, sale, offer for sale, or import of specified toxic substances and products that contain these substances, with some substances including exemptions.[2]

The proposed *Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012* aim to prohibit the manufacture, use, sale, offer for sale and import of five additional substances. In addition, the proposal includes the prohibition of certain processes activities with respect to products or manufactured items that contain these substances.[3]

The five substances for listing to the *Prohibition of Certain Toxic Substances Regulations, 2012* are:

1. Hexabromocyclododecane (HBCD)
2. Polybrominated Diphenyl Ethers (PBDEs)
3. Perfluorooctanoic acid, its Salts and its Precursors (collectively referred to as PFOA)

[1] Government of Canada. Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012. *Canada Gazette, Part I,* Vol. 149, No. 14 — April 4, 2015
http://www.gazette.gc.ca/rp-pr/p1/2015/2015-04-04/html/reg2-eng.php
[2] Ibid
[3] Ibid

4. Long-chain perfluorocarboxylic acids, their Salts and their Precursors (collectively referred to as LC-PFCAs)
5. Perfluorooctane Sulfonate (PFOS) [4]

Based on the finding of toxicity under CEPA 1999, we agree with the need to use regulatory measures to manage the five substances. This proposal recognizes the need for Canada to address toxic substances HBCD, PBDEs, PFOS, which have been identified for global elimination under the Stockholm Convention. For the remaining toxic substances, PFOA and LC-PFCAs, further regulatory proposals are long overdue.

The use of the *Prohibition of Certain Toxic Substances Regulations,* 2012, to prohibit these chemicals is appropriate but the proposed measures under this regulation are inadequate in their current form. The proposals will not fully ensure the protection of the environment and human health from exposure to these toxic chemicals. Substantial loopholes in the proposal would result in their continued use and subsequent release of these toxic substances.

Specifically, we object to the proposed exemptions for the products or manufactured items, particularly imported items, that contain these substances. The proposal entrenches the continued use of these substances for several key applications while undermining the precautionary principle by not adequately addressing the life cycle approach to managing these toxic substances.

The proposal also excludes considerations that will prevent the release of PBDEs through export, recycling, disposal, and end-of-life management considerations, for consumer and industrial products that contain these toxic substances.

It is our view that a more proactive and preventative approach is needed for the management of these toxic substances. Substantial comments are provided below to highlight the weaknesses in the listing of each toxic substance.

Discussion & recommendations

All five substances for which the regulations propose to prohibit certain activities, met the criteria for virtual elimination under the *Canadian Environmental Protection Act* 1999 (CEPA 1999) because they have been found to be persistent, bioaccumulative and toxic to the environment. However, Canada has concluded that all substances with the exception of LC-PFCAs, which have not been assessed for health effects, are not toxic to human health at current exposure levels. Because these substances all meet the criteria for virtual elimination, is it questionable as to how much consideration was given to their long term presence and impacts, with regards to human health.

[4] Ibid

Since the government is not using its full power under CEPA 1999, there are similar concerns that the proposed exemptions listed for the products and manufactured items containing these substances will pose a threat to the health of vulnerable populations because of the inadequate protection of the environment.

- ***Domestic actions align with obligations under the Stockholm Convention on Persistent Organic Pollutants***

We are pleased that Canada is pursuing regulatory activities that confirm and support its commitment to the global elimination of toxic substances. As a Party to the Stockholm Convention on Persistent Organic Pollutants (POPs), Canada is positioned to complete the ratification of certain POPs such as HBCD. However, Canada has an opportunity, through the proposed regulations, to advance efforts under the Stockholm Convention, by developing stringent regulations that aim to eliminate the use of POPs in products.

We are increasingly disappointed that regulations aimed at prohibition are not comprehensive and still fail to address a growing concern related to the presence of POPs in consumer products. Canada's approach should aim to eliminate any proposed exemptions associated with these substances and the products and manufactured items that contain these substances, by establishing regulatory triggers in the regulation that would result in the application of safer alternatives. If this approach is adopted, it will contribute to the reduction of these toxic substances in the environment (including indoors) and in humans.

The following lists the current Stockholm Convention status for three of the five substances: [5, 6]

- **HBCD**: HBCD is listed for elimination under Annex A with exemptions for specific uses (i.e., EPS and XPS foams).[7] HBCD is also under consideration for listing to the Protocol on Persistent Organic Pollutants to the Convention on Long-range Transboundary Air Pollution;
- **PBDEs**: Certain PBDEs (Penta- and Octa-BDE commercial mixtures) are listed under Annex A with exemptions. They are also listed to the Convention on Long-range Transboundary Air Pollution. The remaining PBDEs (Deca-BDE commercial mixture) have been nominated to the Stockholm Convention and are currently under review by a technical committee;

[5] Environment Canada webinar April 2015. Proposed *Regulations Amending the Prohibition of Certain Toxic Substances regulations, 2012 (Proposed Regulations).*
http://nblung.ca/cnhhe_wp/en/files/2015/04/PCTSR-Webinar-EN-2015-04-23.pdf
[6] Government of Canada, Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012. *Canada Gazette, Part 1,* Vol. 149, No. 14 — April 4, 2015.
http://www.gazette.gc.ca/rp-pr/p1/2015/2015-04-04/html/reg2-eng.php
[7] The new POPs under the Stockholm Convention.
http://chm.pops.int/TheConvention/ThePOPs/TheNewPOPs/tabid/2511/Default.aspx

- **PFOS**: PFOS and its salts are listed to Annex B for restriction under the Stockholm Convention. It is also listed on the Convention on Long-range Transboundary Air Pollution. A list of exemptions is identified under the Stockholm Convention.

The following are general comments and recommendations that are applicable to all of the five substances proposed for prohibition with a focus on specific areas of consideration that were not included the document, *Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012.*

- ***Recycling, disposal, end-of-life considerations (including stockpiles) and exports***

The proposal fails to consider the full life cycle of the five substances. For example, the proposal does not propose to prevent the release of the targeted toxic substances from recycling, and disposal, from products and manufactured items (industrial and consumer products) that contain these substances. The lack of consideration of these issues only serve to perpetuate the ongoing use and release of these toxic pollutants to our environment while also failing to uphold virtual elimination objectives under CEPA 1999.

The lack of consideration for the full life cycle is demonstrated in the management of PBDEs under the proposed regulations. Recycling processes for consumer products containing PBDE is identified as an important and ongoing source of PBDE releases to the environment. Current waste management regimes and extended producer responsibility programs have not effectively addressed this growing concern. For example, a 2011 report quantifying the levels of PBDEs in recycled carpet padding (otherwise known as rebond foam), indicated that twenty-three of the twenty six samples tested contained at least one PBDE listed in the Stockholm Convention, with levels ranging from 1 – 1130 ppm.[8] As a result, the lack of consideration for the full life cycle will result in concerns that will be subsequently ignored. These concerns include the lack of consideration for potential routes of exposure to appropriate vulnerable populations such as children crawling on carpeted areas containing PBDEs, the variable levels of PBDEs present in finished products, the migration of PBDEs to house dust, and occupational health.
As a result, we propose that stringent regulatory measures for consumer products be an instrumental part of the proposal, so that the government could address the recycling of consumer products containing PBDEs and thereby prevent future uses of PBDEs in final products that may be incorporated into recycled materials and finished products.

Also, a growing body of evidence indicates that products containing PBDEs, including electronic products that are disposed in landfills, are a continued source of PBDE releases to the environment, even in situations where provincial electronics take back polices are in place.

[8] IPEN (International POPS Elimination Network) 2011. A Survey of PBDEs in Recycled Carpet Padding. http://www.cela.ca/sites/cela.ca/files/POPs-in-recyled-carpet-padding-23-April-2011.pdf

Again, the current proposal to exclude the consideration for products containing PBDEs and end-of- life management issues create significant confusion for achieving the prohibition of these toxic substances.

Similarly, the proposal will not prevent the export of products containing PBDEs. Therefore, appropriate steps to include a prohibition of PBDEs in consumer products in the regulatory proposal will address end of life methods such as the disposal of products containing PBDEs. In the case of electronic products, export should not be considered as an appropriate end-of- life management strategy.

Finally, the lack of focus on full life cycle consideration in the proposed regulations also fails to consider the contribution of incineration of targeted products and manufactured items that contain PBDEs, which result in the formation of dioxins and furans, both of which are targeted for global elimination.

Recommendations:

1) The proposed regulations should be revised to prohibit the manufacture, use, sale, offer for sale, and import of each of the five substances as well as products and manufactured items that contain them.
2) The proposed regulations should consider the full life cycle of the targeted toxic substances as they pertain to products and manufactured items, including end-of -life management and recycling.
    a. Incineration should not be considered a waste management option for products containing these toxic substances.
    b. Prohibit the export of products and manufactured items containing these five substances to developing countries that do not have the regulatory framework to address these toxic substances.

- ***Consumer products with a higher risk human exposure to selected substances: carpets, food packaging, fabrics***

Under CEPA 1999, Canada concluded that PBDEs, PFOAs, HBCD and PFOS are not toxic to human health at the current exposure levels. The remaining group of chemicals, LC-PFCAs has not been assessed for health effects. In the proposal, the government's failure to address consumer products can result in continued human exposure and in particular, vulnerable populations, to some of these toxic substances. Consumer products in this category include carpets, food packaging and treated fabrics.

Recommendation:

1) The proposed regulations should ensure that the prohibition for the five substances include consumer products such as carpets, food packaging and fabrics.

- ***Alternatives: availability of products, risk assessments***

  Based on the proposal, it appears that safe alternatives are available for some of the five substances targeted under the proposed regulations. However, clearly defined alternatives to replace the toxic substances have not been articulated. A mechanism detailing the toxicity and safety of available alternatives (chemical or non-chemical alternatives) should be publically available. In some cases, safe alternatives may be assessed through the New Substances Notification Regulations (NSNR) under CEPA.

  While there are some assessment summaries for new substances, there are on-going concerns that the assessments conducted under this the NSNR are not accessible and transparent. There is no mechanism in place for the public to access and review the assessments of these alternatives and submit comments or questions related to their safety and efficacy. The assessment of potential alternatives to toxic chemicals, for example PBDEs, should clearly demonstrate their safety and efficacy. This information would be valuable for interested stakeholders.

Recommendation:

1) The assessment of the potential alternatives should be made available to the public thereby allowing transparency in the system.

- ***Monitoring***

In order to determine the effectiveness of the proposed prohibitions, environmental and biomonitoring are recommended. Although monitoring requirements fall outside the scope of the proposed regulation, they are considered to be an important aspect of the management strategy as prohibition of these targeted substances is the end goal.

There is adequate scientific evidence indicating the continued presence of some of the proposed prohibited substances in the environment and the human population in Canada. For example, most of the proposed substances have been detected in the Great Lakes ecosystem, as well as in Arctic regions. However, analysis and data to demonstrate whether the concentration levels for most of these substances are changing may not yet be available.

Recommendation:

1) To determine the effectiveness of the complete prohibition of the five substances, a comprehensive and transparent monitoring and biomonitoring program should be established.

- ***Timeframe***

The proposed regulation is expected to enter into force by December 31, 2016 for flame retardants PBDEs and HBCD. According to the consultation document, industry is well on its way to using alternatives to these flame retardants, in advance of the proposed deadline. It is unclear why the prohibitions could not take effect immediately. For PFOA and LC-PFCAs, it has been noted that the voluntary agreement expires at the end of December 31, 2015. Once the voluntary agreements expire, there are no regulatory obligations on industry regarding the manufacture and use of PFOAs and PFC, from January 1, 2016 to December 31, 2016. The implementation of the prohibition for these substances should be set appropriately for December 31, 2015, unless a special request is submitted to demonstrate why a deadline for December 31, 2016, is required.

Recommendations:

1) The proposed regulations should apply immediately as of December 31, 2015 for all five substances unless a written request for exemption is made to demonstrate why an extension is required to December 31, 2016.
2) For PFOA and PFCAs, the expiration of the voluntary agreements creates uncertainty in the role of industry for the year of 2016. This uncertainty should be addressed by the government.

The following are more specific comments and recommendations for the five substances proposed for prohibition:

HBCD

Canadian manufacturers and importers using HBCD in EPS and XPS foams in building and construction applications have a phase-in period before the use exemptions expire on December 31, 2016.[9] There are alternatives in place for this substance but there are several aspects of the consultation that should be clarified by the government. There is one exemption that indicates all other products containing HBCD would be allowed (i.e. in vehicles). While this represents less than 1%, the necessity of this exemption is not clear.

[9] Environment Canada webinar April 2015. Proposed *Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012 (Proposed Amendments).*
http://nblung.ca/cnhhe_wp/en/files/2015/04/PCTSR-Webinar-EN-2015-04-23.pdf

The listing of HBCD under the Stockholm Convention identifies EPS and XPS foams as exemptions. We are pleased to see that Canada will be in a position to ratify the amendments to the Stockholm Convention on HBCD by the elimination of HBCD by December 31, 2016, in all applications. [10] The ongoing challenge with HBCD, as noted previously, is the perpetuation in use and release of HBCDs in consumer products that may be targeted for recycling.

Recommendations:

1) We do not support the exemption proposed for HBCD or the use of voluntary agreements aimed to achieve the phase out of HBCD in the automotive sector.
2) No exemptions for HBCD should be permitted since there are available alternative substances, including those available for the automotive manufacturing sector.
3) With the proposed regulations, we urge Canada to proceed with the ratification process to support the amendments under the Stockholm Convention, and eliminate HBCD under Annex A with no exemptions.

PBDEs

Currently, the *Polybrominated Diphenyl Ether Regulations* (2008) prohibit the manufacture, use, sale, offer for sale, and import of resins, polymers and mixtures containing three types of PBDEs (tetraBDE, pentaBDE, hexaBDE) but the proposed amendments would repeal these regulations.

The proposed amendment would extend the prohibition on the manufacture, use, sale, offer for sale, and import of products (e.g., resins, polymers and mixtures) to include products containing any type of PBDE (therefore including heptaBDE, octaBDE, nonaBDE and decaBDE). The proposed listing for PBDEs represent an improvement over the PBDE Regulations by extending the prohibition to manufacture, use, sale offer for sale or import for decabrominated diphenyl ethers (decaBDE) commercial mixtures. However, it would exempt PBDEs found in manufactured items such as electronics, textiles, and construction materials. [11,12] The failure to address PBDEs in consumer products is a significant weakness in the proposal given that in 2010, and again in 2013, the government's risk management strategy on PBDEs included a commitment to develop regulatory measures for PBDEs in consumer products.[13,14] Substantial comments have been submitted by the Canadian

[10]UNEP. 2014. Amendments to Annexes to the Stockholm Convention. http://chm.pops.int/Countries/StatusofRatifications/Amendmentstoannexes/tabid/3486/Default.aspx

[11] Ibid

[12] Environment Canada. 2015. Factsheet for the Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012. http://nblung.ca/cnhhe_wp/en/files/2015/04/Fact-Sheet-Prohibition.pdf

[13] Environment Canada. 2010. Risk Management Strategy for Polybrominated Diphenyl Ethers(PBDEs): PBDE CAS No. tetrabromodiphenyl ethers (tetraBDE) 40088-47-9; pentabromodiphenyl ethers (pentaBDE) 32534-81-9; hexabromodiphenyl ethers (hexaBDE) 36483-60-0; heptabromodiphenyl ethers (heptaBDE) 68928-80-3; octabromodiphenyl ethers (octaBDE) 32536-52-0; nonabromodiphenyl ethers (nonaBDE) 63936-56-1;

Environmental Law Association, Ecojustice, Environmental Defence and David Suzuki Foundation to highlight specifically the need to implement regulatory measures on PBDEs in consumer products.

The exemption permitted for PBDEs falls short of a complete prohibition of these toxic substances. As a result, an extensive number of items containing PBDEs will be exempted. Furthermore, the proposed regulations do not address the growing concern regarding the life cycle management of these toxic substances in products, as noted in a previous section of this submission. These substances would continue to be present in the environment as a result of their continuous use in many manufactured items, and the lack of regulatory requirements to address the recycling of products containing PBDEs. As a result, we are do not support the exemptions proposed for PBDEs.

Recommendation:

1) In keeping with the NGO joint submission, we support a prohibition on the use, manufacture, sale and offer for sale and imports of all PBDEs. In addition, we urge the government to extend the prohibition of PBDEs to consumer products to fulfill the commitment made by government in 2010 and again in 2013. There should be no exemptions in these regulations as alternatives to all PBDEs are likely in place for these substances.

PFOA and LC-PFCAs

A health assessment for LC-PFCAs has not been conducted by the government so any health effects associated with exposure to this substance remain unknown. [15]

In Canada and in the US, there are voluntary agreements with manufacturers to eliminate PFOA and LC-PFCAs from their products by the end of 2015. [16]

Taking into consideration the voluntary agreement mentioned above, there are several exemptions listed for the use of PFOA and LC-PFCAs in products and manufactured items, which are open-ended. [17, 18] For example, manufactured items such as finished textiles and

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decabromodiphenyl ether (decaBDE) 1163-19-5. 2010. http://publications.gc.ca/collections/collection_2014/ec/En14-115-2010-eng.pdf

[14] In 2013, the "Government of Canada is proposing to prohibit the manufacture, import, sale and offer for sale of any product containing tetraBDE, pentaBDE, hexaBDE, heptaBDE, octaBDE, nonaBDE or decaBDE, other than mixtures, polymers and resins." In: Environment Canada. 2013. Consultation Document on the Proposed Risk Management Instrument for Products Containing Polybrominated Diphenyl Ethers (PBDEs). http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=B8B0071B-1&printfullpage=true#wsAE435195

[15] Environment Canada webinar April 2015. Proposed *Regulations Amending the Prohibition of Certain Toxic Substances regulations, 2012 (Proposed Amendments).* http://nblung.ca/cnhhe_wp/en/files/2015/04/PCTSR-Webinar-EN-2015-04-23.pdf

[16] Ibid

[17] Ibid

[18] Environment Canada 2015. Factsheet for the Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012. http://nblung.ca/cnhhe_wp/en/files/2015/04/Fact-Sheet-Prohibition.pdf

non-stick cookware, products intended for personal use (use and import only), aqueous film-forming foam for fire-fighting (use, sale, offer of sale, import) all containing PFOA or LC-PFCAs, will be exempted. We are concerned that these on-going exemptions results in the continued release of these substances in the environment.

Voluntary agreements with industry to eliminate these substances would imply that alternatives are available or industry is actively working on substitutes. As a result, every effort should be made to remove exemptions. Where there are no alternatives available, the affected industry should request a one time exemption . For example, a phase –out approach for water-based inks and photo media coatings may be required to permit time to develop alternatives. However, proposed permits as suggested for the water-based inks and photo media coatings should not be granted and the end date for use for these substances should remain at December 31, 2016.

Recommendations:

1) We do not support the open-ended exemptions outlined for PFOA and LC-PFCAs.
2) Use of PFOS and LC-PFCAs in water-based inks and photo media coatings should not be permitted an exemption.

PFOS

Currently, the *Perfluorooctane Sulfonate and its Salts and Certain Other Substances Regulations (2008)* prohibit PFOS and products containing PFOS with a number of exemptions but the proposed amendments would repeal these regulations. [19]

The PFOS Regulations allowed many exemptions for PFOS use in Canada. These concerns continue with the proposed regulations listing PFOS since the proposed regulations still maintain some exemptions rather than attempting to achieve the full prohibition of the substance. The government should implement more proactive measures to support the prohibition on the uses of PFOS beyond those proposed in the 'Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012'.

Exemptions for photoresists, anti-reflective coatings for photolithography processes, photographic films, papers, and printing plates, and aqueous film-forming foams (10 ppm of PFOS or less) are permitted, which is not a significant change from the regulations. However, a change in the allowable PFOS concentration from 0.5ppm to 10 ppm is a very concerning development. At this time, a one year exemption should be permitted only once. Adequate time has passed under the PFOS Regulations to identify safer alternatives. The weakness in the proposal is also reflected in the listing of PFOS under the Stockholm Convention under Annex B (restriction), as it unfortunately, does not encourage a shift away from the use of PFOS and find safer alternatives.

[19] Proposed *Regulations Amending the Prohibition of Certain Toxic Substances regulations, 2012*. http://nblung.ca/cnhhe_wp/en/files/2015/04/PCTSR-Webinar-EN-2015-04-23.pdf

For military operations, the aqueous film-forming foam containing PFOS could be replaced with a non-PFOS containing aqueous film-forming foam – if not already done. However, we recognize that the issue of contamination with PFOS containing film-containing foam for military vehicles or fire-fighting equipment used during foreign operations could be problematic.

Recommendations:

1) PFOS should be listed to Schedule 1 for prohibition rather than Schedule 2 as a restriction.
2) Exemptions for photoresists, anti-reflective coatings for photolithography processes, photographic films, papers, and printing plates, and aqueous film-forming foams (10 ppm of PFOS or less) should only be provided as a one-time exemption with no renewal.
3) We reject the proposal to increase the PFOS concentration from 0.5 ppm to 10 ppm, without adequate rationale for the increased concentration.
4) All aqueous film-forming foam containing PFOS used for military operations should be replaced with a safer substitute within a year.

Thank you for your consideration. If you have any questions regarding this submission, please do not hesitate to contact us.

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