Recommendations to the NPRI – NGO members of the Work Group re: Reporting on Mercury and its compounds

While Canada (federally, and the provinces and territories) has a number of measures in place, such as standards and regulations regarding processes and products that use and release mercury, there is a hodgepodge of reporting requirements, not only with respect to the level of mercury set for reporting releases, but also the various sectors that use and release mercury, and the reporting to different agencies and regulations. Many of these measures, including the levels of mercury required for reporting, were set several years ago and are outdated.

In light of the Minamata Convention, as it strives forward to establish a level of consistency worldwide in reporting mercury releases to the environment from a broad range of facilities, as well as reporting on disposals of mercury, and mercury in products, this is an opportune time for Canada to review and re-assess its current reporting requirements for mercury under the NPRI and to align these requirements with the Minamata Convention.

NGOs on the Working Group recommend the following items be addressed in NPRI's workplan:

Reporting threshold:

The current threshold for reporting releases of mercury to the NPRI (10 kg) needs to be updated. It is recommended to update it to 5 kg.

Facilities releasing mercury reporting to the NPRI

It is important that the facilities covered under the Minamata convention are also covered under the NPRI.

Mercury in Products and Processes:

Mercury is used in numerous products and processes, such as electrical switches, thermostats, relays, measuring and control equipment, fluorescent light bulbs, batteries and dental amalgam. It is also used in laboratories, cosmetics, pharmaceuticals, including vaccines as a preservative, paints, and jewellery. Facilities involved in such products and processes should be required to report releases and transfers off-site of mercury to the NPRI.

Mercury Wastes and Disposal (Transfers for Treatment and Recycling):

There has been a substantial increase in levels of mercury (50%) transferred off-site for treatment or recycling from 2010-2019. Where is this waste being transferred to and/or recycled? That information should be on the NPRI site.

Contaminated Sites:

There is no specific reporting site that deals with contaminated sites. This is a serious omission. While Canada has established the Federal Contaminates Sites Inventory and Action Plan, this action applies to contaminated sites on federal land. Therefore, it is recommended that the NPRI broaden this coverage to include a specific section on contaminated sites in Canada.

Mercury - The Minamata Convention and the NPRI

This document provides an overview of the Minamata Convention, Canadian measures to implement the Convention, facilities reporting releases of mercury to the NPRI, and recommendations by the NGO members of the NPRI Work Group for the upcoming workplan of the NPRI in consideration of the obligations under the Minamata Convention.

Update on the Minamata Convention on Mercury

The 4th meeting of the Conference of Parties (COP4) is taking place Mar. 21-25, Bali, Indonesia.[1]

Objective: Protect human health and the environment from anthropogenic sources

Main technical matters for discussion:

- Decision on approach for products containing mercury and processes using mercury
- Updates to guidance on artisanal and small-scale gold mining
- Reports on mercury releases, waste thresholds, effective evaluation
- Proposals to amend Annexes to phase out products and processes containing mercury as proposed by Canada and Switzerland (by 2025)

  For example:
  - Tire balancers
  - Mercury used as propellant for satellites and rockets
  - Photographic film and paper
  - Switches and relays

Synopsis of Canada's Preliminary Views[2]

Dental amalgam (Part II, Annex A):

Canada supports reducing and eliminating mercury from the use of amalgam as the ultimate goal, while supporting maintaining the availability of amalgam as an option when alternatives are less than optimal. Health Canada has recommended minimizing amalgam use in people who are pregnant, children, and people with kidney disease or other sensitivities.[3]

Guidance Artisanal and small-scale mining

Canada's preliminary view – adopt the existing guidance document with the understanding that some sections should be further developed and improved over time.

Mercury releases

Canada supports working on developing guidance on controlling releases.

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[1] Reference to Minamata Convention: https://www.mercuryconvention.org/en/meetings/cop4

[2] Preliminary views were presented at a meeting of the Chemicals Management Division of ECCC," Update on the Minamata Convention on Mercury" February 14, 2022

[3] Between 226 and 322 tonnes of dental mercury (of which the European Union consumes 44-67 tonnes per year) was used globally in 2015, accounting for about 19% of global mercury consumption in mercury-added products.

Waste thresholds

Issues: Article 11 on mercury waste calls for relevant thresholds to be defined (no date has been established). COP3 agreed to "exempt overburden and waste rock from mining other than primary mercury mining (from Article 11), and that thresholds should be developed for waste contaminated with mercury or mercury compounds and tailings from metal mines. No agreement was reached on a threshold.

Canada's preliminary view- it requires all metal mining effluent to meet requirements of the *Metal and Diamond Mining Effluent Regulations*.

Effectiveness Evaluation

As a net recipient of mercury emissions, Canada supports a strong effective treaty and a need to measure the treaty's effectiveness. At COP 4, Canada intends to prioritize approval of an effective evaluation framework.

National reporting

This refers to reporting via COP. There is no mention of public reporting.

Canadian Measures to Implement the Minamata Convention on Mercury [4]

Overview on specific and relevant articles of the Convention

Article 3 – Mercury Supply Sources and Trade

Canada does not have any primary mercury mines; the last of these mines closed in 1975. Its mercury-cell chlor-alkali facilities closed between 1990 and 2008, and have been decommissioned. All mercury resulting from the decommissioning of these facilities was sent for treatment as waste.

Export of Mercury

In 2017, Canada introduced restrictions on the export of mercury by only allowing export of mercury at a concentration of 95% or more by weight that:

a) is, or is contained in, a hazardous waste or hazardous recyclable material regulated by the *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations*;

b) is exported for use in a laboratory for analysis, in scientific research or as a laboratory analytical standard, if the total quantity exported by the exporter during the calendar year in question does not exceed 10 kg; or

c) is contained in a manufactured item that during manufacture is formed into a specific physical shape or design and has for its final use a function or functions wholly or partly dependent on its shape or design.

All other exports are not allowed.

Note: Canada has also notified the Minamata Convention Secretariat that Canada gives a general consent to the import of mercury, without conditions under paragraph 7 of this Article.

Article 4: Mercury-added products

Canada's *Products Containing Mercury Regulations*, 2014, prohibit the manufacture and import of most products containing mercury and address all of the products regulated, except for the mercury content limits in three lamp categories: linear fluorescent lamps for general lighting purposes, cold cathode fluorescent lamps and external electrode fluorescent lamps. Amendments are planned to bring the limits in line with the requirements of the Minamata Convention.

Canada registered an exemption of five years past the phase-out date (2025) for the import, export and manufacture of the three lamp categories, as a precautionary measure in the event of any delay. As a result of these Regulations, the incorporation of mercury into new assembled products is prohibited and products will not be available in commerce in Canada.

Other products including cosmetics, natural health products, pesticides and biocides, antiseptics, are covered by other domestic measures.

[4] https://www.mercuryconvention.org/sites/default/files/documents/notification/Canada_Hg_SummaryImplementationMeasures_Art30_4_2.pdf

Dental amalgam:

Canada intends to implement at least two measures as required by Article 4, paragraph 3, Annex A, Part II, namely the *Canadian Oral Health Framework 2013-2018*, produced by dental directors and dental consultants, which sets out national objectives for oral health and serves as a guide to improve oral health care in Canada, thereby minimizing the need for dental restoration.

Health Canada, through its community based Children's Oral Health Initiative for First Nations and Inuit, focuses on the prevention of dental disease and the promotion of good oral health practices among children, their parents/caregivers, and pregnant women. Furthermore, Canada's 2010 *Notice Requiring the Preparation and Implementation of Pollution Prevention Plans in Respect of Mercury Releases from Dental Amalgam Waste* requires dental facilities to prepare and implement a pollution prevention plan if they have not already implemented best management practices for dental amalgam waste.

Article 5: Manufacturing processes in which mercury or mercury compounds are used:

While Canada does not have vinyl chloride monomer production, or sodium or potassium methylate or ethylate production, two facilities in the province of Ontario produce polyurethane using mercury- containing catalysts. The five measures listed in Part II of Annex B are addressed predominantly via implementation of the Government of Ontario's *Toxics Reduction Act* (2009), whereby these facilities have prepared a toxic substance reduction plan for mercury to reduce the use of mercury in their processes.

Under the federal *Products Containing Mercury Regulation* requirements, Canada will collect information on the quantity of mercury compounds used in these two facilities.

Article 7: Artisanal and Small-scale Gold Mining (ASGM)

While ASGM using mercury does not occur in Canada, there is a need for global action is essential, as recognized by the Convention. While Canada is engaged in activities related to ASGM, such as providing funding and technical assistance, the issue of Canadian companies in which ASGM is occurring in other countries is not mentioned. It is essential to point out inequities in dealing with the use and exposure to mercury worldwide, especially in poor countries, where women and children bear the brunt of exposure to mercury because of ASGM.

Article 8: Air Emissions

While Canada has reduced its domestic emissions of mercury (by over 90% as indicated in the government document) through provincial, territorial and federal actions, some of these measures have been enacted several years ago, and need to be reviewed and updated. The primary facilities to which these regulations apply include coal-fired plants, smelting, waste-incineration facilities, and cement klinker facilities.

Articles 9, 11, 12: Releases, Wastes and Contaminated sites

According to this document, Canada does not have any relevant sources of releases, but requires reporting of releases of mercury and mercury compounds to the NPRI. It is not clear what "relevant" implies, but based on the document "Facilities reporting releases, disposals and transfers of Mercury to the NPRI in 2019", it is evident that there are releases of mercury and this cannot be considered to be irrelevant.

Furthermore, while releases to air and water and via disposal have decreased over a decade, this is not the case for transfers (treatment and recycling).

While there is a federal Contaminated Site Action Plan, the issue of contaminated sites, in particular, mercury contamination in Grassy Narrows and White Dog reserves in North-west Ontario, bear witness to years, in fact, decades of government inaction whose health and livelihoods have been so adversely affected by mercury poisoning in the waterways decades ago from industrial spills and inaction. The effects of mercury exposure and poisoning cannot be confined to Articles that diffuse and desensitize the long-term effects of mercury poisoning.

Articles 13 and 14: Financial resource, capacity building and technical transfer

Canada has and will continue to provide national resources to undertake domestic programs to implement provisions of the Convention, for example, restrictions on the export of mercury and regulations regarding mercury in products and financial support as well as capacity building, technical assistance and technology transfer.

Article 16: Health Aspects

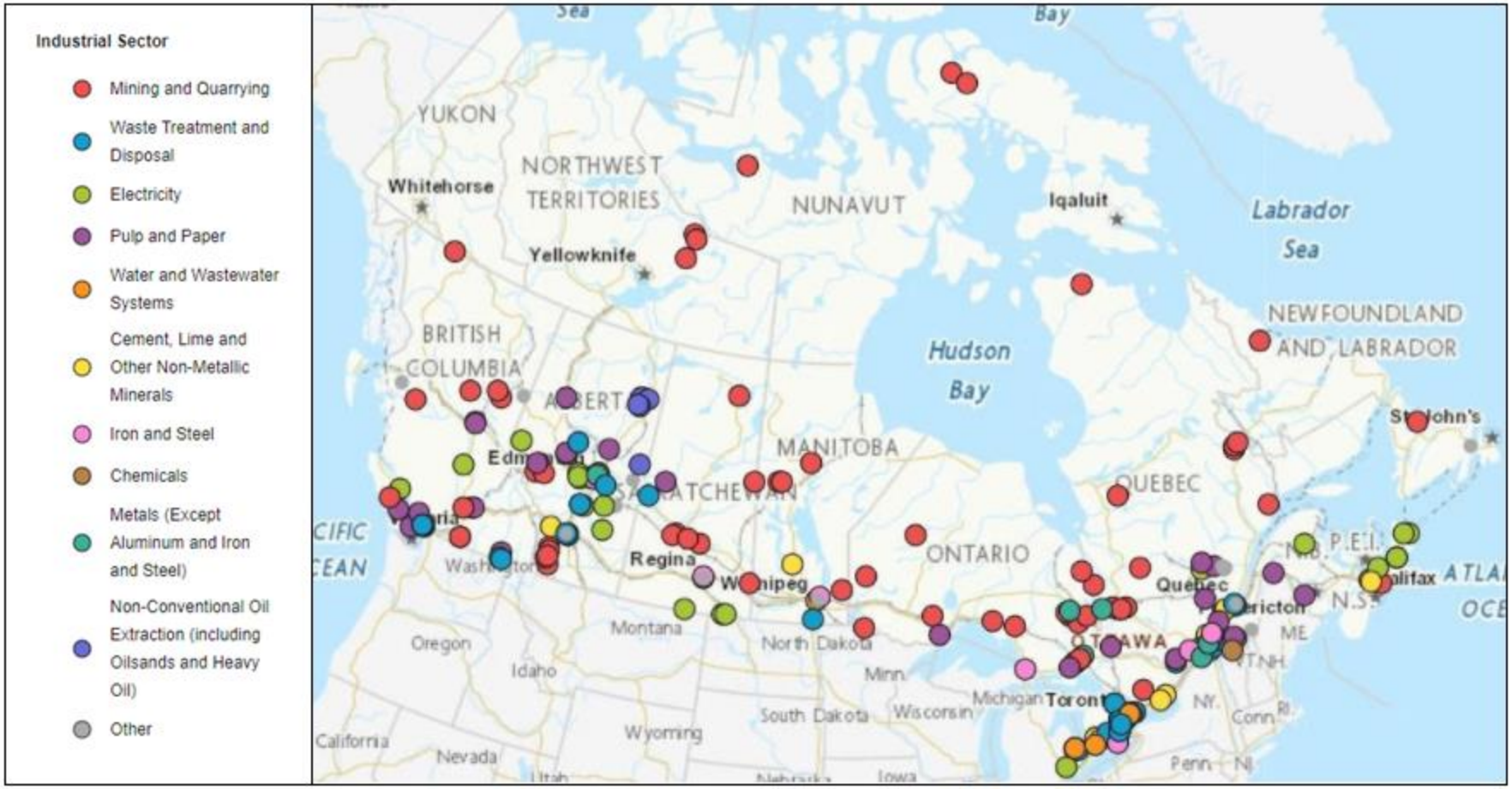
Canada provides biomonitoring health surveys for First Nations, and community based participatory research on environmental contaminants, including mercury. For example, Canada's Northern Contaminants Program (NCP) undertakes human biomonitoring and health research in the Canadian Arctic to assess the impacts of environmental contaminants on Inuit, Dene, and Métis communities and works with Territorial and Regional health authorities to develop public information and advice related to mercury in traditional foods, and how to reduce dietary exposure to mercury. Blood mercury is measured among men, women and children living in northern Canada, and time trend data has been collected for Inuit pregnant women. Health Canada has established maximum levels of mercury in commercial fish and publishes Guidelines for the consumption of fish, and Guidelines for Canadian Drinking Water Quality.

Articles 17 and 18: Information exchange, public information, awareness and education

These measures are intended to provide the public with a range of activities being undertaken to provide and facilitate information to the public on mercury. For example, the National Pollutant Release Inventory (NPRI), a publicly accessible inventory, includes facility-reported information on mercury releases and transfers from industrial and non-industrial sources, mercury air pollutant emission data and trends since 1993, as well as mapping functions. Other public data bases are available[5].

[5] Refer to P.8 Canadian Measures to Implement the Minamata Convention on Mercury

Facilities reporting releases, disposals and transfers of Mercury to the NPRI in 2019



Reference: https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/tools-resources-data/mercury.html
Search: npri substance overview: mercury-canada.ca

Mercury and the NPRI 2019

Comparison of releases, disposal, and transfer levels of Mercury reported to the NPRI: 2010 to 2019[6]

Releases and Disposal Quantities (in kg)	2010	2019	% change
Total releases	3,657	1950	-47%
i) Releases to Air	3288	1844	-44%
ii) Releases to Water	261	106	-59%
Disposal	170,535	120,000	-30%
Transfers: **Treatment and Recycling**	52,255	102,799	**+50%**

Releases to air

Air releases represented 95% of total releases of mercury by facilities in Canada, while water releases contributed to the rest (5%). Releases to land were negligible. Electricity (570 kg) and Iron and steel (455 kg) were the largest sectors contributing to air emission of mercury. The largest releases were located in Ontario (617 kg) and Saskatchewan (478 kg).

Releases to water

Waste and wastewater systems (60 kg) are the largest sector contributing to releases of mercury to water. While these facilities do not generate mercury, they capture most of the mercury generated upstream from industrial sectors or from the use or disposal of products containing mercury, and release any remaining amounts to water. The highest releases of mercury to water are in British Columbia (40 kg) and Ontario (33 kg).

Disposals and Transfers for Treatment and Recycling

The majority of mercury quantities reported to the NPRI are from the waste treatment and disposal sector (76,534 kg). This sector manages wastes containing mercury, such as industrial residues, by-products and contaminated soil. In 2019, 102,799 kg of mercury contained in waste materials were transferred off-site for treatment or recycling by facilities reporting to the NPRI which represents a **50% increase from 2010 levels** (52,255 kg). The majority of this mercury (80,348 kg) was transferred for treatment **prior** to final disposal and belongs to the waste treatment and disposal sector.

[6] https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/tools-resources-data/mercury.html

Disposals of Mercury - 2019