

DRAFT

Canadian Council of Ministers of the Environment

CANADA-WIDE STANDARDS for MERCURY EMISSIONS from COAL-FIRED ELECTRIC POWER GENERATION PLANTS

PREAMBLE

The Canadian Council of Ministers of the Environment (CCME) has determined that mercury levels in fish and wildlife across Canada warrant efforts to reduce mercury emissions in order to protect not only fish and wildlife, but also human health.

Mercury is a toxic, persistent, bioaccumulative substance. It converts in water to the highly toxic form, methylmercury, which accumulates in fish and other species, damaging the central nervous system and causing reproductive failure among loons and river otters.

Human exposure to mercury – primarily by eating contaminated fish – may cause neurological and developmental damage. Low exposure to mercury may cause problems, such as learning disabilities in children. Women of childbearing age, pregnant women, children, and populations who depend on fish as a traditional food source are most at risk.

CCME is committed to reducing mercury releases to the environment. Since 1998, CCME has set Canada-wide Standards (CWSs) for mercury emissions from base-metal smelters and from waste incinerators, as well as CWSs for mercury-containing lamps and dental amalgam waste.

Canada has also negotiated and signed a number of regional and international agreements with the U.S. and the United Nations Economic Commission for Europe that reduce emissions to the global pool of mercury, since Canada receives ten times more mercury from the global pool than it emits each year.

In 2003, the coal-fired electric power generation (EPG) sector emitted an estimated 2,695 kilograms of mercury from an estimated 3,725 kilograms of mercury in coal burned. The EPG sector is the largest single remaining man-made source of mercury emissions in Canada. Therefore, CCME has agreed to set a mercury CWS for this sector, with the goal of reducing mercury emissions from existing plants and ensuring new plants achieve emission levels based on best available technologies economically achievable, or equivalent.

PART I: NUMERICAL TARGETS and TIMEFRAMES

1. Nature and application

This Canada-wide Standard (CWS) consists of two sets of targets:

- provincial caps on mercury emissions from existing coal-fired electric power generation (EPG) plants, with the 2010 provincial caps representing a 65% national capture of mercury from coal burned, or 70% including recognition for early action; and
- capture rates or emission limits for new plants, based on best available control technology, effective immediately.

A second phase of the CWS may explore the capture of 80% or more of mercury from coal burned for 2018 and beyond.

2. Existing facilities

Existing coal-fired EPG plants will meet the following provincial caps for annual mercury emissions:

Province	Estimated Emissions ¹ (kg/yr)	2010 Cap (kg/yr)
Alberta	1,180 ²	590
Saskatchewan	710	430 ³
Manitoba	20	20
Ontario	495	0
New Brunswick	140	25
Nova Scotia	150	65
<i>Total</i>	2,695	1,130

¹ Based on 2002 to 2004 utility monitoring program results.

² Alberta's commitment is through the implementation of the Clean Air Strategic Alliance Electricity Project Team recommendations. Alberta emissions are based on a 90% capacity factor.

³ Saskatchewan's early actions, between 2004 and 2009, will be used to meet its provincial caps for the years 2010 to 2013. Examples of early actions include a mercury switch collection program and early mercury controls at the Poplar River Power Station.

The 2010 national total represents mercury emission reductions from 2003/04 levels of approximately 52%, or 58% including recognition for early action.

For the purposes of this CWS, existing facilities include units in place at the time of endorsement at the following coal-fired power plants:

Manitoba	Brandon
Saskatchewan	Boundary Dam Poplar River Shand
Alberta	Sheerness Battle River Genesee Sundance Keephills Wabamun H.R. Milner
New Brunswick	Belledune Grand Lake
Nova Scotia	Lingan Point Tupper Trenton Point Aconi
Ontario	Atikokan Nanticoke Thunder Bay Lambton

3. New facilities

This section applies to any coal-fired EPG unit not identified above as an existing facility. A new facility includes any coal-fired steam generating unit, including a unit which replaces an existing coal-fired steam generating unit with equivalent technology or with any other steam generating technology which is based on coal combustion, for which first permit approval occurs after the signing of this standard.

Mercury emissions from new facilities are not included in the provincial caps for existing facilities.

A new coal-fired EPG unit will achieve a capture of mercury from coal burned no less than specified below or an average annual mercury emission rate no greater than specified below:

Coal type	Percent capture in coal burned* (%)	Emission rate* (kg/TWh)
Bituminous coal	85	3
Sub-bituminous coal	75	8
Lignite	75	15
Blends	85	3

* These rates are based on best available technologies economically achievable.

PART 2

IMPLEMENTATION

Jurisdictions will undertake the following implementation actions:

- implement jurisdictional implementation plans to achieve the CWS (see Annex A);
- establish and maintain testing in accordance with a Monitoring Protocol to be developed by CCME no later than 2006; and
- the federal government, with support from the provinces and territories, will aggressively pursue further reductions in the global pool of mercury.

REPORTING on PROGRESS

Ministers will receive reports from jurisdictions in 2008, 2009, and 2010 and every two years thereafter until 2016 on the results of testing in accordance with the Monitoring Protocol. Ministers will ensure that a single report is prepared and posted on the CCME web site for public access.

These reports may be accompanied by other information on additional outcomes, activities, research, or other issues relevant to the standards and/or the coal-fired electric power generation sector.

REVIEW

Based on reports on progress, the CWS may be reviewed by 2012 to explore the capture of 80% or more of mercury from coal burned for 2018 and beyond.

ADMINISTRATION

Jurisdictions will review and renew Part 2 five years from coming into effect.

Any party may withdraw from this CWS upon three months' notice.

This CWS comes into effect for each jurisdiction on the date of signature by the jurisdiction.

MINISTERS of ENVIRONMENT

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