November 18th, 2003

RESPONSE OF THE GOVERNMENT OF CANADA TO A SUBMISSION ON ENFORCEMENT MATTERS UNDER ARTICLES 14 AND 15 OF THE *NORTH AMERICAN AGREEMENT ON ENVIRONMENTAL COOPERATION* REVISED SUBMISSION NO. SEM-03-001 OF AUGUST 14TH, 2003 FILED BY 49 CANADIAN AND AMERICAN NONGOVERNMENTAL ORGANIZATIONS

INTRODUCTION

On May 1, 2003, the Attorneys General of the States of New York (Eliot Spitzer), Connecticut (Richard Blumenthal) and Rhode Island (Patrick C. Lynch), along with 49 Canadian and American non-governmental organizations (NGOs) and two towns in New York State, filed a citizen submission with the Commission on Environmental Cooperation (CEC). The submission asserts that Canada is failing to effectively enforce both sections 166 and 176 of the *Canadian Environmental Protection Act, 1999* (CEPA 1999) and section 36(3) of the *Fisheries Act* with respect to three coal-fired power plants, Nanticoke, Lambton and Lakeview, that are owned and operated by Ontario Power Generation (OPG). Specifically, the submitters assert that emissions of nitrogen oxides, sulphur dioxide and mercury from these three OPG coal-powered facilities pollute the air and water downwind, in eastern Canada and the northeastern United States.

On July 15, 2003, the CEC Secretariat determined and notified the submitters that the submission did not meet the requirements of Article 14(1) of the *North American Agreement on Environmental Cooperation* (NAAEC). The CEC Secretariat informed the submitters that it would terminate the Article 14 process with respect to the Ontario Power Generation submission, unless remaining submitters (that is, those who are NGOs or persons within the meaning of Article 14(1)) provide the Secretariat with a revised submission that conforms to the criteria of Article 14(1) and the guidelines.

On August 14, the CEC Secretariat received a revised submission from the remaining OPG submitters (which no longer include the three Attorney Generals and the two municipalities -- they are listed as interested parties). On September 19, 2003 the CEC Secretariat determined that the revised OPG submission warrants a response from the Government of Canada.

Prior to providing a substantive response to the submission, the Government of Canada would like to express its view of the Secretariat's handling of the original submission as well as of the revised submission.

a) Original Submission

Canada supports the NAAEC process for citizen submissions on enforcement matters, and considers Articles 14 and 15 of the NAAEC to be among the most important provisions of the treaty. This Agreement provides that "the Secretariat may consider a submission from any non-government organization or person […]". The citizen submission process was not designed for the benefit of governments. It was designed to enable the public to participate in environmental enforcement matters by submitting a claim alleging that a North American Free Trade Agreement (NAFTA) partner has failed to effectively enforce its environmental law.

In this instance, particularly with respect to the original submission, the Secretariat concluded that the two towns and the three Attorneys General, who "joined" the submission, were "not non-governmental organizations or persons within the meaning of Article 14." The CEC Secretariat further determined that "[a]ny further proceedings in connection with this submission will reference the 48 non-governmental organizations as the Submitters."

However, the argument presented above was not the consideration that motivated the CEC Secretariat to reject the original submission. In fact, in its note issued on July 15, 2003, the CEC Secretariat determined and notified the submitters that the submission did not meet the requirements of Article 14(1) of the NAAEC, particular Article 14(1)(c) by stating that insufficient information was provided "regarding whether private remedies available under Canada's laws have been pursued".

In our view, the submission should have been rejected on the basis that some of the submitters were not NGOs or persons (as required under Article 14(1)), but sub national government entities of another Party. The addition to the list of submitters of the names of NGOs who signed a reply form does not correct such a fundamental problem with the submission.

b) Revised Submission

On August 14, the CEC Secretariat received a revised submission from the remaining OPG submitters and found that the revised submission did meet all the criteria in Article 14(1) and determined that it merited a response from Canada. The Government of Canada supports these decisions on the basis that the two towns and three Attorneys General who originally joined the submission are no longer listed as submitters. We are pleased to provide this response.

This response describes the Government of Canada's approach to air quality management. It outlines the actions taken by the Government of Canada with respect to the air emissions of nitrogen oxides (NO_x), sulphur dioxide (SO_2) and mercury from the three OPG facilities identified by the submitters. The response describes the actions taken by the Government of Canada under the Fisheries Act with respect to mercury deposits in water. It also describes the role of the Minister of the Environment (Environment Canada) with respect to the administration of section 36(3) of the *Fisheries Act*[1].

[1] *Fisheries Act*, 1985, c. F-14.

1. THE GOVERNMENT OF CANADA'S APPROACH TO AIR QUALITY MANAGEMENT

In Canada, given the constitutional framework, the environment is a jurisdiction that is shared between the federal government, the provincial governments and the territories. In 1998, recognizing the environment as a shared jurisdiction, the Canadian Council of Ministers of the Environment (CCME) established a broad national framework for environmental management, which among other things, seeks to minimize duplication of efforts. As a result, the *Canada-wide Accord on Environmental Harmonization (*hereafter referred to as the *Harmonization Accord)*[2] states that the roles and responsibilities, with respect to the environment, are undertaken by the order of government best situated to effectively address the environmental concern in question. Consequently, the different levels of government, depending on the circumstances, collaborate as needed to address environmental issues. However, the *Harmonization Accord* also states that "in instances where a government is unable to fulfil its obligations under this *Accord*, the concerned governments shall develop an alternative plan to ensure that no gaps are created within the environmental management regime".

This approach establishes the framework and the manner in which air quality issues are addressed in Canada. Building on the *Harmonization Accord*, in 1998 CCME endorsed the *Canada-wide Environmental Standards Sub-Agreement*[3], which provides "for the continual development, improvement, and attainment of priority Canada-wide Environmental Standards for environmental quality and human health across Canada, consistent with the vision and principles of the Accord." As previously stated, the *Harmonization Accord* favours that roles and responsibilities be undertaken by the order of government best situated to effectively address them.

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[2] The *Canada-wide Accord on Environmental Harmonization,* came into force on January 29th, 1998 is available at http://www.ccme.ca/initiatives/environment.html, last updated on October 21st, 2003. The *Harmonization Accord* states that: "In assessing which government is best situated, governments will give consideration to applicable criteria, such as:

- scale, scope and nature of environmental issue
- equipment and infrastructure to support obligations
- physical proximity
- efficiency and effectiveness
- human and financial resources to deliver obligations
- scientific and technical expertise
- ability to address client or local needs
- interprovincial/interterritorial/international considerations".

[3] The *Canada-wide Environmental Standards Sub-Agreement* is available at http://www.ccme.ca/initiatives/environment.html, last updated on October 21st, 2003.

It is within this framework that the *Canada-wide Standards*[4] (CWSs) are set to reduce health and environmental risks from specific pollutants, such as NO_x, SO_2 and mercury. The Standards are developed using a firm scientific foundation and a risk-based approach which considers socio-economic factors and technical feasibility. All jurisdictions (federal, provincial and territorial) are accountable for achieving the CWS targets and for reporting publicly on their progress.

In a similar vein as the *Canada-Wide Accord on Environmental Harmonization*, the CEPA 1999 preamble states that "[…] the Government of Canada recognizes the importance of endeavouring, *in cooperation with the provinces, territories and aboriginal peoples,* to achieve the highest level of environmental quality for all Canadians and ultimately contribute to sustainable development" [italics added].

Accordingly, in keeping with CCME, with the spirit of the *Harmonization Accord*, with the CWSs and with CEPA 1999, the Government of Canada seeks to achieve the highest level of environmental quality by working in collaboration with the provinces and territories. In the case of stationary sources of emissions, such as the three OPG facilities identified by the submitters, the Government of Canada's practice, consistent with the national framework, is to pursue a multilevel and consensus-based approach when setting expectations, e.g. a CWS.

For information on tracking and monitoring air quality, please see Appendix I.

2. CANADA'S APPROACH TO MANAGING THE EMISSIONS ORIGINATING FROM THE NANTICOKE, LAMBTON AND LAKEVIEW OPG FACILITIES

As explained in Section I, the Government of Canada's practice is to work collaboratively with provinces on environmental solutions, which are then implemented by the jurisdiction that is best situated.

In the case of the Nanticoke, Lambton and Lakeview OPG coal-fired power facilities referenced in the submission, the Government of Canada is aware that they emit NO_x, SO_2 and mercury and that such emissions, in general, may have an impact on human health and the environment including on fish and fish habitat. As a result, and as laid out in this reply, the Government of Canada has been working with the Government of Ontario to ensure that these emissions are managed. The

[4] The *Canada-wide Standards* are administrative agreements under the *Canadian Environmental Protection Act 1999* (CEPA 1999). The *Canada-wide Standards* are available at http://www.ccme.ca/initiatives/environment.html last updated on October 21st, 2003.

Government of Ontario is taking action but, as previously noted, if the Government of Canada is concerned about the rate of progress or the potential environmental outcome, it may pursue more focused bilateral solutions with individual jurisdictions and turn to its authority under section 176 or 166 of CEPA 1999.

The submitters claim that the Government of Canada is failing to effectively enforce sections 176 and 166 of CEPA 1999.

2.1 Section 176 of CEPA 1999

Section 176, which addresses international water pollution, states that: "where the Minister of the Environment has reason to believe that a substance released from a source in Canada into water, creates, or may reasonably be anticipated to create […]"

The submission could be read as suggesting that section 176 of CEPA 1999 applies to airborne pollutants which blow over international borders and ultimately descend into water. It is the Government of Canada's position that section 176 of CEPA 1999 does not address that situation.

2.2 Section 166 of CEPA 1999

Section 166 of CEPA 1999 addresses international air pollution.

The air emissions resulting from the Nanticoke, Lambton and Lakeview energy generating facilities are addressed under all of Canada's current environmental air quality priorities, namely, climate change, acid rain, smog and air toxics. As explained in the following section, the Government of Canada had concerns about the approach taken by the previous Ontario government to the electric power sector. However, the new Government of Ontario has indicated that addressing emissions from OPG's coal-fired power plants, especially NO_x, is a priority. The Government of Canada is looking forward to seeing a revised NO_x plan from the province which reflects this commitment. The Government of Canada is confident that SO_2 and mercury emissions originating from the three facilities are being addressed by the Government of Ontario.

2.2.1 Actions taken with respect to NO_x air emissions

In the case of the NO_x emissions originating from the Nanticoke, Lambton and Lakeview facilities, these emissions are being addressed through two main initiatives: the *Ozone Annex to the Canada-U.S. Air Quality Agreement* and the *Canada-wide Acid Rain Strategy for Post-2000*.

a) Ozone Annex to the Canada-U.S. Air Quality Agreement[5]

The *Ozone Annex to the Canada-U.S. Air Quality Agreement* (hereafter referred to as the *Ozone Annex*) is a formal agreement between Canada and the U.S. to reduce transboundary flow of smog between both countries. Ontario was a member of the Canadian delegation during the negotiations with the United States. Commitments include, by 2007, a 39-kilotonne cap on NO_x emissions from fossil fuel-fired electric power generation facilities that are located within the Pollutant Emission Management Area (PEMA)[6] of Ontario. This cap represents approximately a 46% reduction compared to the emissions from these facilities in the year 2000. Thus far, emissions have been reduced to approximately 60 kilotonnes, from approximately 72 kilotonnes in 2000.

Meeting the commitment for the sector under the Ozone Annex will be an important step for Ontario towards meeting their commitment under the CWSs for Particulate Matter (PM) and Ground-Level Ozone. In June 2000, Canadian Environment Ministers set an ambient air quality standard for ozone of 65 parts per billion, 8 hour average, and PM2.5 of 30 micrograms per cubic metre, 24 hour average. For Ontario, a provision of the CWS stipulates a 45% reduction from 1990 levels of NO_x emissions by 2010 will be considered as an appropriate level of effort towards achieving the Ozone CWS. By achieving the 39 kilotonne cap on NO_x emissions from the electric power sector, Ontario will have achieved a reduction of 45% of the 1990 emissions from this sector.

The Government of Ontario has taken provincial action. On November 10, 2001, the Government of Ontario adopted Regulation 396-01[7], which sets out a commitment to phase out the use of coal at the Lakeview Generating Station by 2005. This phase-out will result in a reduction in NO_x emissions in the PEMA. In addition and to meet the 2007 cap of the Ozone Annex, the Government of Ontario adopted Regulation 397/01[8], which came into effect January 1, 2002. This regulation established a series of decreasing caps for NO_x specific to the electricity sector.

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[5] The *Ozone Annex to the Canada-U.S. Air Quality Agreement* is available at *http://www.ec.gc.ca/air/ozone-annex_e.shtml*, last updated November 25th, 2002.

[6] The *Ozone Annex* defines a PEMA in each country from which there is or can be transboundary transport of pollution causing ozone. In Canada, the PEMA is an area of 301,330 km^2 covering all of the Canadian territory south of about the 48th parallel beginning east of Lake Superior to the Ottawa River, and south of the corridor that extends from the Outaouais Region east to Quebec City. This region includes central and southern Ontario as well as southern Quebec. Over 50 percent of the Canadian population resides within the Canadian PEMA. The U.S. PEMA is the area of the eastern United States that is within 500 km of the Canadian border and includes 18 states and the District of Columbia. It represents about 40 percent of the U.S. population.

[7] Environmental Protection Act - Ontario Regulation 396/01 available at *http://www.e-laws.gov.on.ca:81/ISYSquery/IRLC6E9.tmp/1/doc*, verified on October 27th, 2003.

[8] Environmental Protection Act -Ontario Regulation 397/01 available at *http://www.e-laws.gov.on.ca:81/ISYSquery/IRLC6FB.tmp/1/doc*, verified on October 27th, 2003.

The cap is distributed between all fossil-fuel fired power plants greater than 25 megawatts in and outside Ontario's PEMA. From 2002 to 2006, OPG's fossil-fuel fired facilities receive the majority of the allowances, while the remaining allowances are distributed to independent power producers based on their estimated electricity production for the current year. As of 2008, all allowances will be distributed based on the electricity generating power plants production estimate for the current year or on their past production.

Ontario regulation 397/01 is a hybrid cap-and-trade system where there is the potential for the province to exceed the cap. The cap applies to the Ontario power sector. However, the power sector is allowed to buy emission credits from other uncapped sources in Ontario and/or to buy emission allowances from the United States. The current electricity system is heavily dependent on coal-fired units to meet electricity demand. Most of these units are not equipped with technology to reduce emissions to levels consistent with the NO_x cap. There are no firm measures in place to ensure that either additional control technology is installed or some coal-fired units are replaced by cleaner sources of generation. Thus, there is reason to believe that the flexibility to buy emission credits will be used and that emissions from the fossil fuel-fired electricity generating facilities in Ontario's PEMA are likely to exceed the 39-kilotonne cap, which would be problematic under the *Ozone Annex.*

It should be noted that Canada believes that flexible emission trading systems have a place in environmental policy, but must be designed to work within the constraints of each application. In the *Ozone Annex*, Canada is constrained by the commitment to meet a NO_x emissions cap of 39-kilotonnes for a specific class of electricity generating facilities within a specific region. In this case, the province-wide application of the cap and the flexibility provisions that allow allowances to be purchased from uncapped sources and/or from the U.S. would be inappropriate.

At this time, Environment Canada is working under subparagraph 166(1)(b) of CEPA 1999 with the Government of Ontario to determine whether the province can prevent, control or correct NO_x emissions under its laws, in order to meet the 39-kilotonne cap set out in the *Ozone Annex*. Given the recent election in Ontario, the Government of Canada is consulting with the new provincial government on its plan to meet the NO_x cap. Should it become clear that the 2007 cap commitment will not be met, the Government of Canada will consider appropriate actions under federal law.

b) The Canada-wide Acid Rain Strategy for Post-2000 [9]

[9] The *Canada-wide Acid Rain Strategy for Post-2000* is available at http://www.ccme.ca/initiatives/climate.html?category_id=31, last updated on October 24th, 2003.

The *Canada-Wide Acid Rain Strategy for Post-2000* (hereafter referred to as *the Strategy*) is Canada's long-term acid rain management strategy. The key acid rain-causing pollutants are SO_2[10] and NO_x.

The emphasis in *the Strategy* is on further SO_2 reductions (see below). However, *the Strategy* acknowledges that NO_x does play a role in acidification. *The Strategy* notes that "there are disturbing signs that nitrogen deposition may, in time, undermine some of the benefits from controlling SO_2. The role of nitrogen is complex and further research is required to fully understand the role of nitrogen in acidification". *The Strategy* commits governments to cooperate in assessing the co-benefits to acid rain of current programs to control NO_x emissions, as well as investigate the role of nitrogen in acidification. To meet this research requirement, in May 2000 the federal Minister of the Environment announced $1.8 million in funding for nitrogen research. Investigations are underway to learn about the relative importance of the differing forms of nitrogen (ammonium, nitrate, organic nitrogen) in deposition and ecosystems, which ecosystems are nitrogen saturated and how close others are to reaching this state, and the biogeochemical processes that control nitrogen use and release. Additional research is focusing on the impacts of nitrogen on forests, including the development of critical loads (sulphur + nitrogen) for forests and maps of the forested areas showing current deposition levels. The results are being written into the 2004 national acid rain science assessment to be published in early 2005. This funding, along with other resources for acid rain research, will ensure that Environment Canada meets its obligations for science and monitoring under *the Strategy*, and that CCME has the science basis it needs for determining what further action on NO_x may be required.

With respect to the other substances that are emitted by the Nanticoke, Lambton and Lakeview facilities, namely SO_2 and mercury, the Government of Canada is addressing these emissions through the following actions.

2.2.2 Actions taken with respect to SO_2 air emissions

In the case of the SO_2 emissions in general, which include those originating from the Nanticoke, Lambton and Lakeview facilities, they are being addressed through the *Canada-wide Acid Rain Strategy for Post-2000*.

a) The Canada-wide Acid Rain Strategy for Post-2000

By following a collaborative approach, Canada has cut its emission of SO_2, one of the primary causes of acid rain, by more than 45% since 1980, to well below its

[10] SO_2 is addressed in Section 2.2.2.

national and regional targets.[11] This was done as part of a comprehensive acid rain program launched in 1985. *The Eastern Canada Acid Rain Program*[12], coupled with the *U.S. Acid Rain Program*[13], was intended to protect moderately sensitive ecosystems from acid rain. This early program was rooted in an extensive national research and monitoring program, and anchored in federal-provincial agreements which set out science and monitoring as well as policy roles. An eastern Canada cap of 2.3 million tonnes of SO_2, introduced in the 1985 program, aimed to reduce emissions by 40% from actual 1980 levels. The seven easternmost provinces negotiated amongst themselves on how to divide up the pie into provincial caps, which they agreed to meet by 1994. The program was designed to let each province decide how it would achieve its cap. Most provinces, including Ontario, implemented specific regulations to reduce emissions, primarily at non-ferrous metals smelters and at coal-burning power plants[14]. As a result, Ontario Hydro (OPG's predecessor) reduced its SO_2 emissions by over 70% between 1980 and the 1994 deadline. By 1994, Ontario Hydro's SO_2 emissions were 106 kilotonnes, well under its 175 kilotonne limit.

In 1994, working together the Government of Canada and the provinces began consulting with stakeholders to develop a new national strategy to fulfil its obligations under the second *United Nations Economic Commission for Europe Sulphur Protocol*[15] and to protect acid-sensitive areas, human health and visibility. The Protocol led to the new *Canada-Wide Acid Rain Strategy for Post-2000 (the Strategy)*, which builds upon the success of the 1985 acid rain program, and upon a major review of the state of acid deposition science in Canada, published in 1997.

The Strategy, signed in 1998 by Canadian Ministers of Environment and Energy, lays out a framework to solve the acid rain problem in eastern Canada. A primary long-term goal of *the Strategy* is to meet the environmental threshold of critical loads for acid deposition across Canada. As a first step towards this goal, *The*

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[11] Countdown Acid rain Program $S0_2$ Limits in Ontario were:

- For INCO (Copper Cliff): from a 1980 baseline of 1155 kilotonnes to 265 kilotonnes in 1994
- For Falconbridge Sudbury: from a 1980 baseline of 293 kilotonnes to 100 kilotonnes in 1994
- Algoma Steel in Wawa: from a baseline of 285 kilotonnes to 125 kilotonnes in 1994
- For Ontario power generation: from a baseline of 397.8 Kilotonnes in 1980 to 175 kilotonnes in 1994
- For Ontario: from a baseline of 2194 kilotonnes in 1980 to 885 kilotonnes in 1994

[12] The *Eastern Canada Acid Rain Program*, introduced in 1985 available at http://www.ec.gc.ca/acidrain/acidrn/acidrn_e.htm#s1, last updated December 20, 2002.

[13] *U.S. Acid Rain Program* available at http://www.epa.gov/airmarkets/arp, last updated on Monday, September 15th, 2003.

[14] Environmental Protection Act - Ontario Regulation 287/87 available at http://www.e-laws.gov.on.ca:81/ISYSquery/IRLC6E9.tmp/1/doc , verified on October 27th, 2003.

[15] full citation

Strategy commits certain provinces, including Ontario, to establish new reduction targets and schedules for reducing SO_2 emissions in eastern Canada.

In fulfillment of this commitment, in January 2000 Ontario announced a SO_2 emission reduction target for the province of 50% by 2015. The province is now developing and implementing measures to achieve these reductions. One measure that the Government of Ontario introduced towards achieving the new provincial SO_2 target is stringent emission caps for power stations burning fossil fuel[16]. When fully implemented in 2007, the caps will reduce limits on SO_2 emissions from fossil fuel power plants by 25%. In addition, the Government of Ontario through Regulation 396-01 established a commitment to phase out the use of coal at the Lakeview Generating Station by 2005. This phase-out will result in an elimination of SO_2 emissions from this plant.

These actions taken to reduce SO_2 to address acid rain will also help to achieve the CWS on PM.

Given the current and planned progress on this file, there is no indication that action by the Government of Canada is warranted.

2.2.3 Actions taken with respect to mercury air emissions

In the case of mercury emissions originating from the Nanticoke, Lambton and Lakeview coal-fired power plants, they are being addressed through the *Canada-Wide Standard* on mercury emissions from coal-fired power plants. Furthermore, the mercury emissions originating from the three facilities are being investigated under the *Fisheries Act* [see section 2.3].

a) Development of a Canada-Wide Standard on Mercury Emissions

A Canada-Wide Standard for mercury (hereinafter referred to as *the CWS)* originating from the electric power generation (EPG) sector is currently being developed under the auspices of the CCME. On June 9 of this year, CCME's Secretariat posted a notice on its web site[17] committing to develop *the CWS* by "2005 to reduce mercury emissions from the coal-fired electric power generation sector by 2010", and " to explore the national capture of mercury from coal burned in the range of 60-90%". This range is based on current and emerging technology. As with current CWSs, *the CWS* will be developed with the participation of a variety of groups with an interest in the Standard. *The CWS* will be presented to the CCME Council of Ministers in 2005. The Government of Canada's view continues to be

[16] Ontario Regulation 397/01
[17] CCME website http://www.ccme.ca/index.html

that 2010 is the appropriate timeframe for achieving *the CWS*. The 2010 deadline was chosen because it coincides with the timeframe for achieving the commitments under the *Canada-wide Acid Rain Strategy for Post-2000* and the *Canada-Wide Standards for Particulate Matter and Ground-level Ozone*[18]. It also falls within the 2008-2012 *Kyoto Protocol* timeframe for achieving reductions in emissions of greenhouse gases. As laid out in the *Harmonization Accord*, should it become clear prior to 2010 that the Government of Ontario cannot meet *the CWS*, then a "concerned government", like the Government of Canada, could "develop an alternative plan to ensure that no gaps are created within the environmental regime".

Once *the CWS* is set, the provinces, including Ontario, will need to take action. The Government of Ontario has one regulation already in place, Regulation 396-01, which sets out a commitment to phase out the use of coal at the Lakeview Generating Station by 2005. This phase-out will result in an elimination of mercury emissions from this plant.

2.3 Section 36(3) of the *Fisheries Act*

The submitters also claim that Canada has failed to enforce the prohibition contained in the Canadian *Fisheries Act* against the deposition of substances deleterious to fish or fish habitat into water frequented by fish, particularly with respect to mercury.

The *Fisheries Act* was first enacted by the federal government in 1868 and applies to the whole of Canada, including private property, in every province and territory. Subsequent amendments to this Act have enhanced the ability of the Government of Canada to protect fish, fish habitat and water frequented by fish. Although the Minister responsible for the *Fisheries Act* is the Minister of Fisheries and Oceans, under a 1978 Prime Ministerial Decision, Environment Canada is responsible for the administration of the pollution prevention provisions of the *Fisheries Act* dealing with the deposit of deleterious substances into water frequented by fish (subsection 36(3)) on behalf of the Minister of Fisheries and Oceans. A 1985 Memorandum of Understanding between Environment Canada and Fisheries and Oceans Canada reiterated the responsibilities of both departments and set out mechanisms for information sharing and cooperation.

If a prosecution is deemed to be the appropriate response to non-compliance with subsection 36(3) of the *Fisheries Act*, the accused party (corporation or individual) is tried in a criminal court. There are no civil proceedings available to punish violators of subsection 36(3) although there are opportunities for using the civil

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[18] *Canada-Wide Standards for Particulate Matter and Ground-level Ozone* available at http://www.ccme.ca/initiatives/standards.html last updated on October 21st, 2003

courts to recover damages or cleanup costs. The evidentiary requirements of a criminal case are more rigorous than those of a civil case. To succeed in a prosecution, the Crown must be able to prove beyond a reasonable doubt that the named person “deposited” or “permitted the deposit of” a “deleterious substance” into or near “water frequented by fish”.

The Crown will not approve the laying of charges unless there is a reasonable likelihood of a conviction, and it is in the public interest to prosecute. In a prosecution, the Crown must prove all of the elements of an offence beyond a reasonable doubt. If the investigative agency is unable to gather sufficient evidence to satisfy a Crown prosecutor of a reasonable likelihood of a conviction, the prosecutor will not approve the laying of charges. At this time, there is insufficient evidence of a causal link between mercury emissions originating from the Nanticoke, Lambton or Lakeview facilities with the mercury found in fish-bearing waters.

Consequently, Environment Canada is currently working on an inspection program in the province of Ontario. This inspection program includes sampling of OPG’s mercury emissions and subsequent modeling development. This is a complex and difficult task. The sampling is being carried out as part of an inspection under the *Fisheries Act*. Should the Government of Canada need to take action, a definitive scientific case will allow it to do so under the Act.

The task of measuring mercury emissions in stack gases is difficult and the scientific techniques are quite complicated. Specialized equipment based on a unique determination of the circumstances is required. Due to these complications, and thus high costs, stack sampling programs are usually carried out once a year or once every few years. As a result data on long term monitoring of emission is very scarce.

The atmospheric modelling of emissions and the attempt to determine their ultimate fate is even more difficult. First, as described above, the data is scare; and second, there is not full scientific understanding of atmospheric pathways and chemical interactions with mercury in the atmosphere. This science is in its infancy and is the subject of much study and debate in the scientific community. There are currently no comprehensive models available that can deal with the mercury emissions from these stacks.

The Government of Canada is aware that the Nanticoke facility reported a discharge of one kilogram of mercury into water in 2001. At this time, the Government of Canada is focusing its efforts on Nanticoke’s atmospheric releases of mercury, which in 2001 were 226 times greater than its reported mercury discharge into water.

CONCLUSIONS

The Government of Canada is concerned about the harmful effects of NO_x, SO_2, and mercury from the Nanticoke, Lambton and Lakeview Generating Stations. Acting in the spirit of the *Harmonization Accord*, CEPA 1999 and the *Fisheries Act*, Canada has been working cooperatively with the Government of Ontario for many years to ensure that these atmospheric emissions are reduced in a timely fashion, taking into account economic and competitive considerations vis-a-vis the United States. Under the *Ozone Annex to the Canada-U.S. Air Quality Agreement* the Government of Canada is committed to reduce NO_x emissions from Ontario power plants by approximately 46% from 2000 levels by 2007. The pending *Canada-wide Standard* for mercury aims to control mercury emissions from coal-fired power plants in the range of 60-90% by 2010. Canada's acid rain programs have more than cut in half SO_2 emissions from Ontario power plants since 1980, and call for another round of reductions by 2007. Canada believes that these timeframes are scientifically appropriate; they are technologically and economically achievable and are consistent with our international obligations.

APPENDIX I

The Canadian Air and Precipitation Monitoring Network, CAPMoN, is operated by the Meteorological Service of Canada (MSC) of Environment Canada in order to study the regional patterns and trends of acid rain, air and precipitation chemistry. CAPMoN measures both wet deposition (through rain or snow) and (inferential) dry deposition, as well as the ambient concentrations of acid forming gases and particles.

The CAPMoN network has been in operation for over 20 years. Currently the network consists of 24 sites across Canada, nine of them in Ontario. Its initial focus was on acid rain (precipitation chemistry and some of the acidifying constituents in air, such as sulphur dioxide and nitric acid, and particulate sulphates and nitrates), but now smog pollutants (nitrogen oxides, volatile organics, ozone and particulate matter) are also measured at selected sites. CAPMoN locations are chosen to ensure that measurements represent the regional composition of the atmosphere, and are not affected by local sources of air pollution.

CAPMoN data on precipitation chemistry, along with similar information from other networks in North America, go into the NAtChem database, which supports various types of analyses for tracking the effectiveness of emission controls and assessing impacts on particular receptor areas of emission source areas. For example, the area in eastern North America receiving sulphate deposition in excess of the critical load for aquatic ecosystems, has been shown to be shrinking as acid gas emission controls were introduced in Canada and the United States during the 1980's and 1990's.

Another network that extensively monitors air quality in Canada is the National Air Pollution Surveillance Network (NAPS). NAPS is a joint federal-provincial-territorial-municipal network established in 1969 and managed by the Environmental Protection Service. It is primarily an urban network with 239 air monitoring stations in 136 cities, and gathers measurements for sulphur dioxide, carbon monoxide, nitrogen oxides, ozone and particulate matter. CAPMoN smog-related data are provided to the NAPS database, and have been included in various past analyses of air quality trends for smog constituents.

Continuous measurements of gaseous elemental mercury began in Eastern Canada in the mid-1990's and were later extended to Western Canada. Collection of precipitation for analysis of mercury began in Quebec and Atlantic Canada in the late 1990's and extended to Ontario and Western Canada shortly thereafter. Currently there are three sites measuring gaseous elemental mercury and mercury in precipitation in Ontario as part of the Canadian Atmospheric Mercury Measurement Network, the Mercury Deposition Network and/or the Integrated Atmospheric Deposition Network. Measurements of reactive gaseous mercury and

mercury in particulates have been made at Point Petre near Lake Ontario for the past year. In addition, short-term studies of the mercury concentrations in a major urban area and around specific point sources in Ontario and Quebec have been undertaken.