Replaces earlier version

273.

Canadian Environmental Law Association
L'Association canadienne du droit de l'environnement

517 College Street, Suite 401, Toronto, Ontario M6G 4A2
Telephone (416) 960-2284
Fax (416) 960-9392

Submission

to the

International Joint Commission

on the

United States-Canada Air Quality Agreement

Publication #273
ISBN# 978-1-77189-454-8

presented on
December 5, 1995

in
Washington, D.C.

by
Paul Muldoon
Counsel
The Canadian Environmental Law Association
517 College Street, Suite 401
Toronto, Ontario
M6G 4A2

TABLE OF CONTENTS

I. INTRODUCTION - THE NEED TO EXPAND THE SCOPE OF THE AGREEMENT

Transboundary air pollution remains a significant problem along the U.S.-Canada border. The signing of the *Agreement between Canada and the United States on Air Quality* (the Air Quality Accord) dated March 13, 1991 was an important step forward in addressing certain transboundary air pollution issues, and in particular, acid rain-causing emissions.

Although the utility of the existing Air Quality Accord remains, other air quality issues are now evident along the international border. The urgency of these issues supports the need to broaden the scope of the Air Quality Accord. The thrust of this submission is to argue for an expanded Air Quality Accord to include toxic air pollutants. The body of the submission outlines the rationale for an expanded Accord, some required components, and finally, a number of needed institutional reforms under the Agreement.

II. THE NATURE OF THE PROBLEM

Toxic transboundary air pollution remains a serious problem between Canada and the United States (U.S.). This is not a new problem either within the Great Lakes[1] or along the international border.[2] There is little evidence that the situation is getting any better. What is clear is that there is a growing body of evidence demonstrating the environment and human health effects of toxic air pollution.

(i) The Environmental Effects of Toxic Air Pollution

In recent years, there has been an explosion of literature outlining the adverse effects of persistent toxic substances.[3] The atmosphere is a major pathway for many of these substances.

It is not the intent of this submission to provide an in-depth review of the literature in

this regard. However, a cursory overview of a number of recent reports portrays a sense of the urgency for action.

In 1994, U.S. EPA released its "Great Waters" report to Congress, titled, "Deposition of Air Pollutants to Great Waters."[4] The report was heralded as a milestone since it informed both Congress and the public that the current releases of toxic air pollution were posing both a national and international threat. The report recognized the emerging concerns about the risks to future generations from various toxic air pollutants that act as "environmental hormones." Increased risk categories were identified for certain populations such as those that consume large amounts of Great Lakes fish.

The study concluded that:

> adequate information is available to lead EPA to the conclusion that some actions are justified and necessary at this time. Adverse effects of the chemicals of concern are evident and studies of selected waters show significant proportions of toxic pollution from the atmosphere.[5]

Second, the growing mountain of evidence concerning the environmental and human health impacts of dioxin was fortified with the release of the September 1994 U.S. Environmental Protection Agency (EPA) draft Dioxin Reassessment study.[6] The study not only identified major sources of dioxins, such as incinerators, but also pointed to the build-up of concentrations of these substances in humans and the potential implications of increased body burden.

Third, in June of 1995, Canada co-sponsored an International Experts Meeting on Persistent Organic Pollutants (POPs).[7] The Meeting Statement issued subsequent to the event, entitled Towards Global Action, highlights the environmental and human health concerns of POPs, which sheds additional light on the insidious nature of transboundary air pollution, and supports the call for action. This statement provides a concise summary of the understanding of the effects of toxic substances. Some of the

environmental and human health implications include:

- Some POPs interfere with hormone systems through a variety of mechanisms. There are parallels between research on effects observed in laboratory animals and abnormalities in wildlife and elevated environmental levels of certain POPs. Some of the kinds of effects which have been observed in wildlife or induced in laboratory animals have been observed in humans chronically exposed to POPs;

- In recent decades, many wildlife populations have begun to demonstrate immune systems dysfunction, neurobehavioural impairment, and elevated incidence of cancers and tumours, that are consistent with the effects predicted from controlled laboratory animal exposed to POPs;

- Current concentrations of some POPs in fish and wildlife consumed as food by humans exceed health guidelines or standards established by national or international agencies;

- The developing fetus and neonate are particularly vulnerable to POPs exposure. With transplacental and lactational transfer of maternal burdens occurring at critical periods of development, exposure to POPs elicit effects in offspring at levels which have no effects on the adult;[8]

The Meeting Statement, in section 1.4, went on to conclude that:

> There is enough scientific information on the adverse human health and environmental impacts of POPs to warrant coherent action at the national, regional and international level. These will include bans, phase-outs and provisional severe restrictions for certain POPs.

These reports and studies provide an indication of the ever growing case against persistent toxic chemicals, particularly toxic air pollution.[9] Up to this point there has been no mention of the enormous wealth of information from the International Joint Commission (IJC) and its advisory bodies on the topic.[10] Moreover, it seems that virtually every week, there is a new study pointing in the direction of these studies. One example is the recent study suggesting that the dramatic increase in male prostate cancer may be related to chemicals in the environment.[11]

(ii) Loading and Sources of Toxic Air Pollution

One of the issues in attempting to understand the problem of transboundary toxic air pollution is that there is insufficient loading and monitoring data to give a

comprehensive picture of the problem.[12] The data problem is border-wide. For example, the U.S. Toxic Release Inventory (TRI) (which provides loadings data for large discharges) is not formally coordinated with the Canadian National Pollutant Release Inventory (NPRI).[13] Moreover, it should be mentioned that the U.S. (TRI) may only reflect as little as 5% of actual releases.[14]

Even within one of the most studied regions, the Great Lakes ecosystem, the data problem is apparent.

In terms of emissions inventories, there are serious data problems within the Great Lakes. The International Air Quality Advisory Board of the International Joint Commission (IJC) concluded that the inventory of airborne toxics in the basin is inadequate. Current inventories of emissions do not have the detail or the reliability needed for modelling atmospheric deposition to the Great Lakes. Better inventories are a precondition to improved estimates of atmospheric loadings.[15]

What is known from available loading data is quite staggering. Within the Great Lakes perspective, the U.S. TRI reveals that there are some 630,223,581 pounds of toxic chemicals released to the air.[16] When recent data from the TRI and NPRI are combined, preliminary data suggests that there are over 173,000 tonnes of toxic chemicals being discharged into the air from facilities within Great Lakes ecosystem. Over 73% (126,548 tonnes) of these releases are released to air.[17]

On a lake specific basis, there is very alarming data as to the atmospheric input of persistent toxic chemicals. One report outlined that the atmospheric deposition to Lake Superior for lead (67,051 kg/l per year); mercury (657.01 kg/l per year) and PCBS (156.21 kg/l per year).[18]

The House of Commons' Standing Committee on Environment and Development, in its report, It's About Our Health! Towards Pollution Prevention - CEPA Revisited,[19] recently outlined the nature of the transboundary air pollution issue. In their report,

tabled in the House of Commons in June of 1995, the Committee stated:

> It is estimated that more than 90 percent of the dioxins and furans in ambient air in Ontario, and elsewhere in Canada, originate in the United States, mainly from incinerators and industry. For example, the dioxin levels in ambient air in Windsor are 10 times higher than those in Toronto, probably due to the operations of the municipal incinerator in Detroit.[20]

Earlier this year, Dr. Barry Commoner released a study which examined the sources, transport and fate of a number of persistent toxic pollutants in U.S. and Canada.[21] He concludes the following:

> An important outcome of our analysis is the evidence that the airborne emissions are transported over distances of continental dimensions. In the case of HCB -- which is both volatile and highly stable -- this was to be expected from the earlier evidence of global distribution. However, in the case of PCDD/PCDF, despite evidence of widespread occurrence, little consideration has been given thus far to the possibility that this phenomenon might be the result of long range-transport. ...
>
> Our data provide a new factual basis for understanding the ubiquitous exposure of the population to PCDD/PCDF.[22]

Summary

Toxic air pollution along the international border should be considered a major threat to human and environmental health. This threat should act as the basic rationale for the broadening of the scope of the Air Quality Accord.

It is therefore respectfully submitted that:

> ***the Parties provide a commitment to renegotiate an expanded Air Quality Accord to include provisions and annexes directed to transboundary toxic air pollution.***

This recommendation conforms to the Standing Committee on Environment and Sustainable Development's recommendation that "the Government of Canada pursue negotiations with the Government of the U.S. under the terms of the Canada-U.S. Air Quality Accord to reduce dioxin and furan emissions from all relevant sources in the United States which may affect the Canadian environment."[23]

This recommendation is also consistent with the document - Towards Global Action - International Experts Meeting - Persistent Organic Pollutants which recommended that governments should "extend and consolidate regional agreements."[24]

III. THE COMPONENTS OF AN EXPANDED TRANSBOUNDARY AIR ACCORD

The expansion of the Air Accord to include toxic substances would require the addition of one or annexes to the Agreement, and possibly a number of changes to its terms.

(i) Goals and Objectives

By and large, the Air Accord can accommodate an expansion of its scope of interests to include toxic chemicals without substantial revisions. The primary means or mechanism to include the toxics issue is through a series of annexes.

Articles II, III and IV generally are broad enough to accommodate the expansion of the scope of the Agreement to toxic substances. However, for the sake of clarity, Article III should be revised to include the general objective to eliminate the use and generation of persistent toxic substances that will, or have the potential to, cause transboundary air pollution. Further, transboundary air pollution of toxic pollutants in toxic quantities should be prohibited.

The inclusion of this provision is necessary to reflect the view that the present goal of "controlling" transboundary air pollution is not sufficiently stringent with respect to toxic pollution. Further, such provisions would be consistent with the policy commitments in Article II of the Great Lakes Water Quality Agreement (GLWQA).

It is therefore respectfully submitted to the Parties that:

The provisions relating to persistent toxic substances in the Great Lakes Water

Quality Agreement should be mirrored in the revised Transboundary Air Accord.

In particular, Article III of the Air Accord be amended to include the general objective to eliminate the use and generation of persistent toxic substances that will, or have the potential to, cause transboundary air pollution. Further, transboundary air pollution of toxic pollutants in toxic quantities should be prohibited.

(ii) Monitoring, Emissions Inventories and Modelling

One of the primary mechanisms for accountability of international obligations is comprehensive monitoring and modelling regime. At the present time, there is a dire need for better monitoring, emission inventories and modelling.

The exact design, scope and content of these monitoring, emission inventory and modelling regimes must be worked out through detailed annexes. However, there is a need for a commitment in principle for these information and data-collection type mechanisms.

It is therefore respectfully submitted to the Parties that:

the revised Air Accord include detailed annexes on expanded monitoring regimes, emissions inventories and modelling efforts.

The governments should immediately attempt to coordinate emission inventories. Moreover, efforts should be made to negotiate similar emission inventories with Mexico.

This recommendation is consistent with various IJC recommendations related to Lake Superior which are also more generally applicable.[25] For example, Recommendation 13 of its Seventh Biennial Report states:

> Federal governments provide coordinated national inventories of toxic air emissions to allow better estimates of toxic substance deposition to Lake Superior. A binational group should be established to review, coordinate and propose means to (a) identify data requirements; (b) develop guidelines and timetables; (c) set priorities; and (d) propose and coordinate research.[26]

It should be noted that the recent Standing Committee report, It's About Our Health![27] endorsed and re-iterated the recommendation of the IJC in its Seventh

Biennial Report on Great Lakes Water Quality. The report noted that "the Committee also endorses the recommendation that the International Joint Commission (IJC) made in its last annual report" that efforts be made to harmonize Canada's NPRI with the American TRI. The Committee recommended:

> As far as possible, the NPRI be harmonized with the American Toxic Release Inventory (TRI).[28]

As the IJC pointed out, "residents on both sides of the Great Lakes should have information on the same pollutants that are of concern."[29]

(iii) Programs

The revised programs under the Agreement should take advantage of the recommendations developed by the International Joint Commission under its roles and responsibilities under the Great Lakes Water Quality Agreement. Some of these include:

- Adopt Pollution Prevention Strategies: The dominant means to address toxic pollution should be through pollution prevention. Pollution prevention should be defined as those measures and techniques that avoid or prevention the creation or generation of pollutants.

- Sunset Persistent Toxic Chemicals: It is essential that the use, generation and release of persistent toxic chemicals be phased out over time. There are a number of methodologies for achieving this purpose. The notion of "sunset chemicals" establishes a process to identify substances of concern, examine alternatives and then institute measures to phase them out. Transition plans to ensure that phase-outs are undertaken in equitable ways for workers and communities should also be included.

- Examining Alternatives for and Phasing Out Industrial Uses of Chlorine: As recommended in the Sixth Biennial Report, the U.S. and Canadian governments should develop timetables to sunset the use of chlorine and chlorine-containing compounds as industrial feedstocks and the means of reducing or eliminating other uses should be examined.

- Enact Legislation in both Countries to Prohibit Export of Banned Substance and Pesticides: Both Canada and the U.S. should enact legislation to prohibit the export of banned substances and pesticides.

IV. INSTITUTIONAL COMPONENTS

One of the present inadequacies of the Air Quality Accord pertains to the institutional arrangements. These institutional shortcomings pertain to independent investigation, institutional oversight and the role of the public.

(i) The Need for an IJC Reference on Air Pollution

It is recognized that there are a host of scientific and technical questions pertaining to toxic air pollution. As a basis for the renegotiation of the Air Accord, it is imperative that there be a comprehensive and accepted scientific basis and information set. There are a number of mechanisms to undertake this task, such as special bilateral study groups. Another alternative, and preferred option, is to have this kind of investigation undertaken by the IJC under its Reference authority. If the governments did relay a reference to the IJC, an impartial, comprehensive fact-finding mission under the IJC auspices would provide an excellent foundation for further Accord negotiations.

It is therefore recommended that:

The Parties refer a reference to the International Joint Commission pursuant to article IX of the Boundary Waters Treaty pertaining to transboundary toxic air pollution. This reference should be undertaken within a specific time period.

(ii) Role of IJC under the Accord

Once a revised Air Quality Accord has been negotiated, there must be a more meaningful role given to the IJC. Under the present Agreement, the IJC's only power is to hold hearings on progress made towards the objectives of the Agreement and then relay the information to the Parties.

An enlarged role should include the power to undertake studies, verify studies submitted to it and make specific recommendations on how to improve the air quality regime, along with other such powers.

It is therefore recommended that:

In negotiating a revised Air Accord, the IJC be given an expanded role in the Agreement, including the power to undertake studies, verify government studies, among other such duties and responsibilities.

(iii) Need for Citizen Advisory Board

One of the primary institutions under the Air Quality Accord is the Canada-United States Air Quality Committee. This is an important committee that has a significant role in the administration and implementation of the Agreement. The committee would benefit from citizen input, especially from those communities where there is an acute air quality issue. Hence, some mechanism for formal citizen input is required, either through the establishment of a separate citizens advisory board or citizen membership on the Canada-United States Air Quality Committee.

It is therefore submitted to the Parties that:

There should be formal citizen input through the establishment of a separate citizens' advisory board or citizen membership on the Canada-United States Air Quality Committee.

V. SUMMARY AND CONCLUSIONS

Transboundary toxic air pollution is a serious problem. It is the intent of this submission to relay some concrete measures that would create a framework to address the problem. It is respectfully requested that the IJC relay the recommendations contained in this report to the Parties of the Air Quality Accord.

ENDNOTES

1. For example, see: Toxic Air Pollution in the Great Lakes Basin: A Call for Action (March, 1987); Sierra Club, et al. Sweet Water, Bitter Rain: Toxic Air Pollution in the Great Lakes Basin (November, 1989); and Conservation Foundation and Institute for Research on Public Policy, Great Lakes Great Legacy? (Washington, 1990), Chapter 5.

2. For a summary , see: John Carroll, Environmental Diplomacy (Ann Arbor: University of Michigan Press, 1984), Chapter 10.

3. For a summary of this literature, see: National Wildlife Federation, Fertility on the Brink: The Legacy of the Chemical Age (Washington, D.C. 1994); Greenpeace, Body of Evidence: The Effects of Chlorine on Human Health (May, 1995). An excellent synthesis of the material is presented in the Sixth and Seventh Biennial Reports of the International Joint Commission to the Governments of Canada and the United States (Washington/Ottawa).

4. United States Environmental Protection Agency, Deposition of Air Pollutants to the Great Waters First Report to Congress, May, 1994.

5. Ibid., p. xi.

6. Also see: A Joint Report by Physicians for Social Responsibility and the Environmental Defense Fund, Putting the Lid on Dioxins: Protecting Human Health and the Environment; Tom Webster, "Dioxin and Human Health: A Public Health Assessment of Dioxin Exposure in Canada" (13 pp.); Linda Birnbaum, Re-evaluation of Dioxin Presentation to the Great Lakes Water Quality Board, July 15, 1993.

7. Meeting Statement, International Experts Meeting, Vancouver, June 4-8, 1995 [hereinafter referred to as the "Vancouver International Experts Meeting"].

8. Ibid., pp. 3-4.

9. It should also be mentioned that the Commission on Environmental Cooperation committed in October of 1995 to take a number of actions on transboundary air in North America.

10. See note 3 above. Also see: International Joint Commission 1993-95 Priorities and Progress Under the Great Lakes Water Quality Agreement (1995) and in particular, Chapter Two.

11. Globe and Mail, "Prostate Cancer Epidemic Looms" September 27, 1995, p. A10.

12. There is some industry data available. For example, emissions from the member operations of the Canadian Chemical Producers' Association shows a decrease in total Canadian wide air emissions in the period 1992 to 1994 from 130,000 tonnes to 110,000 tonnes. However, operations in Alberta and British Columbia emissions shows an increase in emissions. See: The Canadian Chemical Producers' Association, Reducing Emissions, 1994 Emissions Inventory and Five Year Projections (1995), p. 6.

13. The NPRI is not a legislative program. Instead, information is gathered through the authority of section 16 of the Canadian Environmental Protection Act. See: Environment Canada, Summary Report, 1993, The National Pollutant Release Inventory.

14. U.S. Office of Technology Assessment, Toxic Chemicals - EPA's Toxic Release Inventory is Useful but Can be Improved June, 1991, p. 3.

15. International Joint Commission, Seventh Biennial Report under the Great Lakes Water Quality Agreement of 1978 to the Governments of the United States and Canada and the State and Provincial Governments of the Great Lakes Basin (Ottawa and Washington, 1994), p. 32.

16. This is 1990 data of the U.S. TRI. See: Citizens Fund, Poisoning the Great Lakes: Manufacturers Reject Pollution Prevention May, 1993, p. 3.

17. Environment Canada, Fact Sheet, "Industrial Releases Within the Great Lakes Basin: An Evaluation of NPRI and TRI Data" (1995).

18. D. Dolan et al. Report to the Virtual Elimination Task Force, Source Investigation for Lake Superior (International Joint Commission, Windsor, September, 1993), p. 30.

19. House of Commons, Standing Committee on Environment and Sustainable Development, It's About Our Health! Toward Pollution Prevention - CEPA Revisited June, 1995.

20. Ibid., p. 136.

21. Mark Cohen, et al. Quantitative Estimation of the Entry of Dioxins, Furans and Hexachlorobenzene into the Great Lakes from Airborne and Waterborne Sources (Center for the Biology of Natural Systems, Queens College, New York), May, 1995.

22. Ibid., p. 76.

23. House of Commons Standing Committee, p. 136.

24. Vancouver International Experts Meeting, p. 11.

25. International Joint Commission, Seventh Biennial Report on Great Lakes Water Quality, Recommendations 13 to 15.

26. Ibid., p. 48.

27. House of Commons Standing Committee, p. 217.

28. Ibid., p. 218.

29. Ibid., p. 217.