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IJC REPORT ON TRANSBOUNDARY AIR POLLUTION IN THE
DETROIT AND ST. CLAIR RIVERS AREA

DEPARTMENT OF EXTERNAL AFFAIRS
MINISTÈRE DES AFFAIRES EXTÉRIEURES

The Secretary of State for External Affairs, the Honourable Mitchell Sharp, and Environment Minister, the Honourable Jack Davis, today announced that a Report on transboundary air pollution in the Detroit-Windsor and Sarnia-Port Huron areas has been presented by the International Joint Commission to the Governments of Canada and the United States.

The report is the product of extensive investigations carried out by the Commission over the past six years. The Commission's inquiry involved a meteorological study of the two areas, measurement of the contamination of air masses crossing the International Boundary, identification and quantification of the sources of transboundary air pollution and determination of the resulting adverse effects.

The Commission found that there is transboundary pollution in both areas. In the Detroit-Windsor area, roughly 90 per cent of particulates and 94 per cent of sulphur oxides originated in the U.S.

In the Sarnia-Port Huron area approximately 52 per cent of the particulates and 27 per cent of sulphur oxides originated in Canada.

The malodours experienced in Port Huron and Marine City, Michigan, were due to transboundary movement from the Canadian side. The principal sources of the major pollutants, particulates and sulphur oxides in the Detroit River areas were the steam electric power plant and metallurgical industries in Wayne County, Michigan. The principal sources of these air contaminants in the St. Clair River area were the steam electric power plants in Michigan and the oil refineries and chemical industries near Sarnia.

The Commission has submitted a comprehensive action plan for correcting this serious situation. The Commission has recommended first, that the federal, provincial and state authorities adopt the general and specific air quality objectives proposed by the Commission; secondly, that the Governments of Canada and the United States, with appropriate participation by the Province of Ontario, the State of Michigan and Wayne County, "enter into an agreement on schedules for the implementation, at the earliest practicable date, of preventive and remedial measures to achieve the said Air Quality Objectives and a uniform method for assessing air quality"; third, that the governments concerned enter into agreement on co-ordinated procedures under which the regulatory agencies in both countries will respond quickly to adverse atmospheric conditions when these arise; fourth, that the two Governments, in concert with provincial and state agencies and industry, expand their air quality research programmes; and finally, that the Commission itself be assigned a new role of surveillance and monitoring the programmes and making further recommendations. In this connection, the Commission has proposed the establishment of a permanent international advisory board, and citizens advisory groups, to assist it in carrying out its duties.

In the view of the Canadian authorities, the Commission has made a sound analysis of the problems of transboundary pollution in these areas, and has confirmed that a serious situation exists. The Canadian Government views with concern the situation described by the Commission and considers that the Commission's recommendations, if implemented by the responsible authorities on a co-operative basis, should result in a more rapid improvement in air quality in these areas, and protect air quality in the future. The Canadian Government is ready to play its full part in the kind of measures recommended by the Commission. The provisions of Canada's Clean Air Act of 1971, would provide the necessary basis for participation in the kind of international agreement recommended by the Commission.

The Canadian Government is consulting the responsible authorities in the United States, with a view to discussing the implementation of the co-operative measures recommended by the IJC. The first meeting for this purpose will take place in Washington later this month.

The Canadian Government recognizes that the implementation by Canada of the Commission's recommendations could not be achieved without the full co-operation of the Government of Ontario, and is consulting closely with Provincial authorities. It is anticipated that Ontario officials will join with Canadian Government officials in future discussions with the United States Government, as in the negotiations leading to the conclusion of the Great Lakes Water Quality Agreement which was signed in April 1972.

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A summary of the IJC Report is attached together with a table which compares the IJC recommended air quality objectives with those of the Canadian Government, the U.S. Government and the Government of Ontario. Copies of the report are available in the Department of External Affairs Press Office.

SUMMARY OF IJC REPORT

The International Joint Commission after an extensive investigation has transmitted its report on transboundary air pollution in the Detroit and St. Clair River areas to the Governments of Canada and the United States.

The Commission's inquiry involved a meteorological study of the two areas, measurement of the contamination of air masses crossing the International Boundary, identification and quantification of the sources of transboundary air pollution and determination of the resulting adverse effects. Public hearings were conducted by the Commission at Port Huron and Windsor in 1967 and again at Sarnia and Detroit in 1971. The salient points put forth at these hearings are summarized and paraphrased in the Commission's report.

With regard to the Detroit River area, the Commission found that particulates and sulphur dioxide flowing from United States sources to most of the Windsor area were, on an annual basis, in concentrations which exceeded the Ontario criteria; and in the western part of the city double the limit set out in the Ontario criteria. On the other hand, the contribution of contaminants from Canadian sources to the Detroit area were, on an annual basis, only a fraction of the United States secondary standards and were confined to a small area near Belle Isle. The high level of air pollution in the remainder of Metropolitan Detroit was due to emissions originating within that jurisdiction.

With regard to the St. Clair River area the Commission found that the transboundary flow of particulates from Canadian sources to over a square mile of Port Huron was, on an annual basis, about half of the United States secondary standard; and the flow of sulphur dioxide from Canadian sources to over two square miles of Port Huron, on an annual basis, approached the United States secondary standard. The malodours experienced in Port Huron and Marine City, Michigan, were due to transboundary movement. The transboundary flow of particulates from United States to over ten square miles of Sarnia was, on an annual basis, half of the Ontario criterion; and the flow of sulphur dioxide from United States sources to over 17 square miles of the Canadian area opposite and south of St. Clair, Michigan, on an annual basis, exceeded the Ontario criterion. With the exception of a few square miles of Sarnia the ambient air quality on both sides of the St. Clair River would meet the Ontario criteria and the United States secondary standards if it were not for the transboundary flow of contaminants.

The principal sources of particulates and sulphur dioxide in the Detroit River area were the steam-electric power plants and metallurgical industries in Wayne County, Michigan. The principal sources of contaminants in the St. Clair River area were the steam-electric power plants in Michigan and the oil refineries and chemical industries near Sarnia.

With due regard for economic and social considerations, the severity of effects of specific contaminants and the technological feasibility of controlling their emissions, the Commission found that particulate removal from large point sources would provide the most significant and immediate improvement in air quality. Because of the damage to property and the adverse impact on health of sulphur dioxide when combined with particulate matter, the control of sulphur dioxide emissions are also extremely important.

The Commission concluded that there is an urgent need for bi-national contingency plans to reduce emissions of contaminants during adverse atmospheric conditions. The Commission stressed that there is need for both countries to have consistent air quality standards in the Detroit River and St. Clair River

areas. The report pointed out that there is an urgent need to develop environmentally acceptable alternatives for producing energy that will meet current and future requirements. The report also concluded that there is an urgent need to develop economically acceptable methods and equipment to desulphurize fuels and flue gases and to decrease the overall emission of particulate matter, sulphur oxides and odours from power plants and industrial sources.

The Air Quality Objectives proposed by the IJC for the Detroit River and St. Clair River areas states that the air flowing in either direction across the International Boundary should be:

- (a) Free from contaminants which have harmful effects on human health.
- (b) Free from objectionable odours, haze, dirt and other contaminants which interfere with the normal amenities of living or cause adverse aesthetic effects.
- (c) Free from contaminants which have deleterious effects on property, materials and vegetation.

The report also sets out specific ambient air quality objectives for particulates, sulphur dioxide and odours.

The International Joint Commission recommended, as a basis for each country to achieve satisfactory ambient air quality in the Detroit River and St. Clair River areas, that:

1. The Air Quality Objectives as set out in the Commission's report be adopted by the Governments of Canada, the United States, the State of Michigan and the Province of Ontario and be incorporated into their standards and regulations for these two areas.
2. The Governments of Canada and the United States with appropriate participation by the Province of Ontario, the State of Michigan and Wayne County enter into an agreement on schedules for the implementation, at the earliest practicable date, of preventive and remedial measures to achieve the said Air Quality Objectives and on uniform methods for assessing air quality.
3. The Governments of Canada and the United States with appropriate participation by the Province of Ontario, the State of Michigan and Wayne County enter into agreement for co-ordinated contingency procedures so that regulatory agencies in both countries will quickly and effectively respond to adverse atmospheric conditions by reducing emissions of air contaminants into the atmosphere.
4. The Governments of Canada and the United States specifically confer upon this Commission the authority, responsibility and means for co-ordination of surveillance, monitoring the implementation of programmes, reporting and making recommendations to Governments and such other duties related to the air quality in the vicinity of the Detroit River and St. Clair River areas as may be required; the Commission to be authorized to establish an international board and citizen advisory groups to assist it in carrying out these duties.
5. The two Governments, in concert with provincial and state agencies and with industry, stimulate and expand their research programmes to reduce the emissions of air contaminants, including specifically desulphurization of fuels and flue gases; to ascertain with more certainty the effects of air contaminants on health, property, vegetation and aesthetics; and to enhance the current knowledge of the physical and chemical phenomena involved in the formation, control, movement, transformation, ultimate accumulation and dispersion patterns of all air pollutants.

Table 5 SUMMARY OF AIR QUALITY STANDARDS

Unit of Measurement	Sampling Time	ONTARIO Criteria	UNITED STATES		CANADA		IJC Objective
			Primary	Secondary	Acceptable	Desirable	
PARTICULATE MATTER							
ug/m ³	24 hour	90	260	150	120	--	120
	1 year*	60	75	60	70	60	60
SULPHUR DIOXIDE							
ppm	1 hour	0.25	--	--	0.34	0.17	0.25
	3 hour	--	--	0.50	--	--	--
	24 hour	0.10	0.14	0.10	0.11	0.06	0.10
	1 year**	0.02	0.03	0.02	0.02	0.01	--

* Geometric Mean
 ** Arithmetic Mean

ug/m³ - micrograms per cubic meter
 ppm - parts per million of air