Environment Canada Environnement Canada

Canadian Environmental Protection Act

Report for the Period April, 1990 — March, 1991

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CANADIAN ENVIRONMENTAL PROTECTION ACT

REPORT FOR THE PERIOD
APRIL 1990 TO MARCH 1991

CANADIAN ENVIRONMENTAL PROTECTION ACT

At the end of each fiscal year, Environment Canada's Environmental Protection Directorate prepares an annual report on the *Canadian Environmental Protection Act* for Parliament. It summarizes developments over the past year, highlights the main features of the Act, and provides an agenda for regulations to be introduced under the legislation in upcoming years.

This second annual report covers the period from April 1, 1990 to March 31, 1991. Publication has been delayed due to the complete revison of the document in response to the criticisms raised by the Auditor General about the first annual report. The report for the period 1991-1992 will be available by late summer. To obtain a copy of the *Canadian Environmental Protection Act*, or publications listed in this report, please contact:

The Enquiry Centre
Environment Canada
Ottawa, Ontario
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For CEPA regulations, please contact:

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Ministre de l'Environnement

CANADA

Minister of the Environment

Mr. Robert Marleau
Clerk
House of Commons
Room 228-N
Centre Block
Ottawa, Ontario
K1A 0A6

Dear Sir:

Pursuant to Section 138 of the Canadian Environmental Protection Act, I hereby submit to Parliament, through your good offices, the 1990-1991 Annual Report.

Yours sincerely,

Jean J. Charest

Ottawa, Canada K1A 0H3

Ministre de l'Environnement

CANADA

Minister of the Environment

Mr. Gordon L. Barnhart
Clerk
Senate
Room 289-S
Centre Block
Ottawa, Ontario
K1A 0A6

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Yours sincerely,

Jean J. Charest

ANNUAL REPORT 1990-91

Executive Summary 1990-91

- It has been 33 months since CEPA became law. The past months have given Environment Canada an opportunity to evaluate how the current infrastructure is coping with CEPA's broad mandate. The Department plans to enhance three areas: priority substances assessments, the regulatory process, and the enforcement and compliance system. While improvements to the regulatory process are in the early stages of development, The National Inspection Plan has been formally introduced as a way of coordinating and prioritizing enforcement and compliance activities.

- A highlight in 1990-91 was the publication of the Domestic Substances List (*Canada Gazette Part I*, January 26, 1991), an inventory of more than 21,000 substances manufactured in, or imported into Canada. In the same edition of the *Canada Gazette*, Environment Canada issued the Non-Domestic Substances List, a compilation of 40,000 substances in use beyond Canada's borders.

- Over the past year, Environment Canada introduced seven regulations under CEPA legislation to deal with ozone-depleting substances, chlorobiphenyl, asbestos and lead emissions, leaded gasoline, and the export of PCB waste.

- Environment Canada monitored and controlled ocean dumping by issuing 193 permits. Environment Canada made the best use of available resources to carry out enforcement and compliance activities. In 1990-91, the Department conducted 2,794 inspections and 61 investigations, issued 78 warnings and 5 directions, and pursued 8 prosecutions and 6 convictions.

- The Department developed regulations that will help Canada meet its international commitments. These include the United Nations Program on Substances that Deplete the Ozone Layer (the Montreal Protocol); the Global Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal (the Basel Convention); and the London Dumping Convention.

- Environment Canada continued with scientific risk assessments, in anticipation of the February 1994 deadline to complete reports on every substance on the 44-item Priority Substances List. The first report, issued in April 1990, concluded that dioxins and furans are "toxic" as defined by CEPA. This will lead to regulatory action on pulp and paper mill effluents.

Executive Summary 1990-91

- Non-regulatory instruments play an important role in CEPA's overall "preventive" approach. One such strategy is the Environmental Choice Program, featuring the EcoLogo symbol. The past year saw the finalization of guidelines for 18 types of goods and services. The widespread use of the EcoLogo is intended to help consumers make purchasing decisions that favour the environment.

- Environment Canada develops environmental quality guidelines as "yardsticks" for priority substance assessment reports. These guidelines also provide a basis for assessing the adequacy of regulations. In 1991, the Department published water quality guidelines for three priority substances: trichloroethylene, polychlorinated biphenyls and chloroethanes. In addition, it collaborated with Health and Welfare Canada, the provinces and territories to produce the first set of Canadian Interim Environmental Quality Criteria for Contaminated Sites.

- Negotiations between the federal and provincial governments continued as both levels worked to harmonize their research, regulations and goals. For example, the Federal-Provincial Working Group on Ozone Layer Depleting Substances published a strategy to coordinate federal, provincial and territorial regulations, and issued an interim report on its Recovery and Recycling Action Plan for CFCs.

- Environment Canada published 21 reports that relate directly to current and future specifications and laws under CEPA. The Department's State of the Environment Reporting organization, for example, published *A Report on Canada's Progress Towards a National Set of Environmental Indicators.*

CEPA Action Plan

The *Canadian Environmental Protection Act* (CEPA), a key element of the federal government's environmental legislation, is designed to protect the health of Canadians and the quality of air, land and waters.

CEPA is supported by other legislative and regulatory instruments that safeguard our wildlife, heritage, parks, fisheries and other resources; and that preserve threatened regions, such as the Arctic and our offshore waters. Enacted in 1988, CEPA was born out of the need to protect our health and the environment from toxic organic and inorganic substances, including harmful emissions, effluents, wastes and biotechnology products.

Environment Canada is responsible for creating and enforcing CEPA regulations, and developing environmental quality guidelines. Health and Welfare Canada is instrumental in developing guidelines related to human health, and assessing the human health implications of priority substances.

CEPA's Role in Canada's Green Plan

CEPA has a critical role to play in meeting the goals of *Canada's Green Plan*, the federal government's environmental agenda announced in 1990. Developed following consultations with Canadians from coast to coast, the *Green Plan* affirms the government's commitment to the theory and practice of sustainable development, a framework for change that incorporates environmental values into decision-making at every level of society—from our backyard to beyond our national borders.

The *Green Plan* introduces a comprehensive action plan for Canada, with more than 100 initiatives to protect all aspects of our environment. Several departments, other levels of government, the private sector and organizations are working together to achieve the goals of the *Green Plan*, as environmental stewardship is viewed as a shared responsibility that rests with all Canadians. Still, the federal government is prepared to take the lead in tackling the enormous environmental challenges before us.

Under the *Green Plan*, CEPA acts as the major regulatory instrument in areas crucial to environmental health by:

- keeping toxics out of the environment.

CEPA also supports measures that:

- reduce wastes;
- clean up coastal waters;
- accelerate controls on ozone depletion;
- expand acid rain control; and
- reduce urban smog.

Comprehensive Environmental Regulation

CEPA's regulatory framework is comprehensive. It deals with pollution threats to all parts of the ecosystem, and authorizes restrictions at any stage of a product's life cycle: manufacture, use, transportation, storage and disposal.

CEPA incorporates a number of previous regulations dealing with specific environmental hazards, for example, chlorofluorocarbon (CFC) consumption and chlor-alkali mercury release.

Moreover, recognizing that pollution threats have no geographical boundaries, CEPA's comprehensive approach sets the stage for initiatives with other governments. Federal-provincial and federal-territorial agreements under CEPA will ensure that governments in Canada are working together towards the same end. CEPA also affords Canada the opportunity to fulfil its international obligations concerning the environment.

Regulations formed under CEPA are based on years of research into the thousands of potentially harmful substances used in the marketplace, or released into the environment as a result of industrial operations. Once substances have been assessed for their toxicity, that is, real or potential harmful effects on the environment or human health, the federal government may restrict their importation, use and release into the environment.

Stronger Enforcement Mechanisms

Legislation and regulation are only as good as their enforcement. Canadians must be assured that environmental regulations are followed. Firm, fair and consistent enforcement also ensures that good environmental citizens are not penalized by the environmentally abusive acts of others.

Over the next five years, the *Green Plan* will enhance CEPA's ability to enforce environmental laws. The enforcement program will cover a wide range of remedial and preventive measures to control threats to the environment in a manner that supports sustainable development.

The National Inspection Plan offers a target-oriented approach to make the best use of available resources. Priority regulations are identified at the national level and regional inspection plans are developed in the context of national priorities and regional issues. Priority regulations are monitored more closely.

The National Training Program gives program managers, inspectors and investigators a better understanding of their roles, powers and authorities in compliance monitoring and enforcement activities.

The Importance of Prevention

The focus of CEPA is prevention—averting environmental threats before they occur.

All Canadians must accept responsibility for managing the use of chemicals on a life-cycle basis. Government regulation alone cannot achieve our national goal.

Some Canadian companies have demonstrated international leadership by committing themselves to the goal of virtual elimination of toxic discharges from their manufacturing operations. The Responsible Care program of the Canadian Chemical Producers Association is a good example. It establishes codes of conduct that commit chemical companies to managing toxic chemicals and preventing their release into the environment.

CEPA encourages non-regulatory measures as a means of managing toxic chemicals, including environmental codes of practice and guidelines.

Economic incentives can be used to harness powerful market forces to environmental ends. They can have advantages over the traditional regulatory approach on which Canada has relied for decades. Economic instruments can be less costly to administer. They can provide a greater, ongoing incentive to develop and implement new technology to control pollution; and they can be less economically intrusive and distorting, while still ensuring that our environmental goals are realized.

Opportunities for Individual Canadians

It takes strong national legislation to address major environmental threats such as hazardous waste spills, and the import and export of dangerous substances. Nevertheless, CEPA is an Act that may be, and has been, used by individual Canadians. In fact, the public is given the opportunity to review every new regulation introduced under CEPA. Canadians may object to a CEPA regulation or request a board of review following a decision under the Act.

Above all, Canadians have the right to use CEPA to protect their collective property, the environment. They may request that a suspected toxic substance be included on the Priority Substances List for assessment; they can ask for an investigation about a suspected violation of CEPA; and they have the right to seek an injunction against polluters.

Making Regulations Under CEPA

CEPA's regulatory process is guided by the principles of the federal government's Regulatory Reform Strategy: openness, fairness, efficiency, and accountability.

A CEPA regulation passes through many stages before it finally has the force of law. The process may take up to three years for more complex regulations, allowing for an in-depth examination of the implications of the new measures and providing opportunities for public comment.

Usually, a regulation begins with an assessment report. If a scientific basis for regulatory controls can be established, the federal government may begin drafting regulations, guidelines, or codes of practice.

For hazards that must be acted upon immediately, CEPA gives the Minister of the Environment, with the concurrence of the Minister of Health and Welfare, the authority to issue an interim order. Most interim orders are eventually replaced by regulations.

For regulations, guidelines and codes of practice, Environment Canada and Health and Welfare Canada publish a report on the technical methods of control. The public reviews this initial draft, often at meetings that bring together those with a particular interest in the issue at hand. The Departments consider public comments as they prepare the final draft.

If approved by a Cabinet committee, the proposed regulation and a Regulatory Impact Analysis Statement appear in the *Canada Gazette Part I*. The draft regulation is finalized following a 60-day period set aside for public comment. The regulation comes into force once it is published in the *Canada Gazette Part II*.

Building on the Regulatory Process

The Environmental Protection Directorate, the body charged with administering CEPA on behalf of the federal government, must operate in a climate of rapid change—one of increased public concern, new cooperative efforts with other governments, revisions to the Priority Substances List, and the ongoing introduction of regulations and interim orders.

In an effort to meet these challenges in future years, a 1990 study entitled *Towards a Regulatory Strategy for Environmental Protection: a Management Study*, available from the Director of Regulatory Affairs, recommends a "clear, more formal and more focussed approach" to the regulatory process, one that builds on current strengths. Among its 34 major findings and recommendations, the report concludes that:

- longer term strategies are required to cope with the increased workload since the inception of CEPA;
- the role of economists in the regulatory process might expand as market-based approaches to controlling pollution are explored; and
- the regulatory process could be improved by continuing to develop techniques for "the prioritization of regulations entering the pipeline, with a view to guiding lawyers, economic and socio-economic analysts, technical specialists and senior officials."

A Framework for National Cooperation

Meeting Canada's environmental objectives is a task shared by federal departments, provincial and territorial governments, industries, organizations, the research community and individuals. As a result, CEPA is structured to provide these groups with a number of channels for consultation and cooperative action: expert advisory panels, working groups, a federal-provincial advisory committee, and administrative and equivalency agreements with the provinces and territories.

Advisory Committees

The Ministers of the Environment and Health and Welfare appoint experts from interest groups, industry and the academic community to advisory committees. It was one of these committees, the Priority Substances Advisory Panel, that advised the Ministers during the compilation of CEPA's first Priority Substances List in 1988-89. The List identifies 44 potentially toxic substances that most urgently require assessment.

According to the *Green Plan*, which calls for a revised Priority Substances List to be published in 1994 and on a continuing basis every three years thereafter, the Ministers will continue to appoint Priority Substances Advisory Panels. The committees will review the Priority Substances List and recommend whether other substances should be included on it.

In addition to these committees, which deal with specific tasks, the Ministers are advised by the permanent Federal-Provincial Advisory Committee.

The Federal-Provincial Advisory Committee

This committee, established according to section 6 of CEPA, consists of representatives from Environment Canada, Health and Welfare Canada, and each of the provinces and territories. The group ensures that, together, governments: consult on management initiatives; take action to protect the environment from toxic substances; and achieve nationally consistent levels of environmental quality by establishing nationally consistent objectives.

At its June 1990 bi-annual meeting, the Federal-Provincial Advisory Committee reviewed numerous draft regulations and the Environmental Choice Program Guidelines. During the year, members studied notices on health risks attributed to certain substances, federal and provincial regulatory initiatives, and updates on priority substances assessments.

The Federal-Provincial Working Group on Controls Harmonization (Ozone Layer Depleting Substances)

Under the auspices of the Federal-Provincial Advisory Committee, the federal government established a working group on controls for ozone layer depleting substances. Its mandate is to develop a coordinated national

strategy to eliminate these substances in Canada, and to encourage information exchange among all levels of government.

During the year, the working group published the report, *Strategy and Recommendations for a Consistent Federal-Provincial Regulatory Approach.*

The group also established a process for periodic review of initiatives at the federal, provincial and municipal levels, with the objective of harmonizing controls and regulations.

In October 1990, the working group submitted an interim report to the Federal-Provincial Advisory Committee on its Recovery and Recycling Action Plan For CFCs. In it, members address the servicing needs of existing equipment as the production of new CFCs is phased out. The group will present its final report at a meeting of the Canadian Council of Ministers of the Environment Deputies Committee in the spring of 1992.

In addition, members are maintaining "watching briefs" on halons, and on CFCs that are not amenable to recycling, or those that are no longer required and must be destroyed.

Agreements With the Provinces and Territories

CEPA gives the Minister of the Environment the authority to conclude, with the approval of the Governor in Council, two types of agreements with provincial and territorial governments: "administrative agreements," under CEPA section 98, and "equivalency agreements," under CEPA section 34.

Administrative Agreements

Administrative agreements make it possible to share the work involved in administering federal regulations. These agreements may cover a range of activities, from inspection and enforcement, to monitoring and reporting.

Under an administrative agreement, the federal government remains accountable for the results under such an arrangement, and must report annually to Parliament on the administrative agreement.

Although no administrative agreements have been signed to date, a draft agreement for administering the Pulp and Paper Effluent Regulations will be used as the basis for negotiations with several provinces. In addition, the federal government is currently negotiating enforcement agreements with certain provinces.

Equivalency Agreements

Equivalency agreements represent a division of powers, which terminate the application of a federal CEPA regulation, in recognition of an equivalent provincial or territorial regulation. Once an equivalency agreement is in place, the remaining federal responsibilities are to apply the regulation to

Her Majesty in right of Canada and to report annually to Parliament on the administration of the agreement.

An equivalency agreement may therefore be seen as a contract between the federal Minister and his or her provincial counterpart for the cooperative delivery of a national environmental standard. A separate equivalency agreement must be established for each CEPA regulation in each province and territory.

While no equivalency agreements have yet been signed, negotiations are under way with some provinces on draft equivalency agreements for PCB Waste Storage Regulations, as well as proposed regulations for pulp and paper mill defoamer and woodchips, and chlorinated dioxins and furans release in pulp and paper mill effluents.

Environmental Quality CEPA Part I

Research and Monitoring

Both Environment Canada and Health and Welfare Canada conduct research to provide a sound technical and scientific base for federal environmental legislation such as CEPA.

For example, Environment Canada relies on the findings of the National Air Pollution Surveillance Network. As part of the network, 117 monitoring stations in 52 urban areas across Canada assess the quality of ambient air. The system was established as a joint project of the federal and provincial governments in 1969, and is coordinated by the Pollution Measurement Division at Environment Canada's River Road Environmental Technology Centre, located just outside Ottawa.

Other activities at the River Road Centre include testing vehicle emissions in a specialized laboratory; sampling and analyzing hazardous compounds such as dioxins and furans; refining reference methods used to determine compliance with national pollution regulations; and pioneering techniques to clean up oil and chemical spills.

At another Environment Canada facility, the Wastewater Technology Centre in Burlington, Ontario, researchers are developing technologies to remove contaminants from effluent streams. For example, they have found cost-effective ways of removing cyanide, heavy metals and other substances from gold mill wastes. The centre is also searching for ways to safely dispose of inorganic residues; establishing guidelines for decommissioning industrial sites after they have been closed down; and developing treatments for wastewater from pulp and paper manufacturing.

The Canadian Wildlife Service conducts CEPA research and monitoring at its National Wildlife Research Centre and regional offices. By detecting and measuring the effects of toxic substances on wildlife, researchers can assess the overall health of species, predict the impact of pollutants, and provide an early warning system for potential environmental and human health problems. This year, the Canadian Wildlife Service prepared a report on the status of the Peregrine Falcon in Canada; reports on contaminant levels in birds of prey and game birds; and

scientific papers on the levels and effects of dioxins, furans and other contaminants in water birds, whales, polar bears and other wildlife.

Health and Welfare Canada carries out research in toxicology with the aim of identifying hazardous substances and confirming their links to adverse health effects. Ongoing efforts focus on estimating human exposure to potentially toxic substances, and determining health risks.

These research and monitoring efforts help to establish fair restrictions, and to foster the development of new technologies that will meet those restrictions.

Publications

As part of its research and monitoring mandate, CEPA provides for the continued collection, processing, correlation and publication of results.

The Environmental Protection Directorate alone published reports on 26 subject areas, from aquatic toxicity to urban pollution. Canadians may review a complete list of publications by obtaining a copy of *Environmental Protection Publications* from Environment Canada's Enquiry Centre. An edition of *Environmental Protection Publications* was issued in June 1990. An updated version will be released in the summer of 1991.

State of the Environment Reports

Further to section 2(*g*) and section 7(1)(*f*)(ii) of CEPA, the federal government is required to report to Canadians on the state of the environment (SOE). SOE Reporting is the analysis, description and presentation of credible, scientifically based information on environmental conditions and trends. SOE Reporting is an integrated, holistic approach that typically examines the link between human activities and the environment, and the ensuing implications for human health, ecological systems and the economy.

SOE Reporting has four long-term goals:

1. To increase awareness and understanding among diverse audiences about the state of the environment and its implications for Canadians;

2. To provide a systematic means of identifying and anticipating changes in the environment early enough to consider alternatives for action;

3. To provide tools for evaluating, from an environmental perspective, the effectiveness of policies and practices of government, industry, consumers and the public; and

4. To provide a basis for improved decision-making and for encouraging sustainable use of the environment and natural resources.

CEPA-related Publications Produced in 1990-91

- *Canadian Emissions Inventory of Common Air Contaminants*
- *Canadian Perspectives on Air Pollution*
- *Canadian Water Quality Guidelines, 1991 Supplements*
- *CEPA Priority Substances List Assessment Report No. 1, Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans*
- *Compendium of Waste Leaching Tests*
- *Contaminants in Canadian Seabirds (report and fact sheet)*
- *Contaminants in Herring Gull Eggs From the Great Lakes*
- *Controlling Pollution from Canadian Pulp and Paper Manufacturers: A Federal Perspective*
- *Environmental Code of Practice for Treatment and Disposal of Waste Discharges from Offshore Oil and Gas Operations*
- *Environmental Status Report for the Canadian Petroleum Refining Industry*
- *A Method for Analysis of Polychlorinated Dibenzo-para-Dioxins, Polychlorinated Dibenzofurans and Polychlorinated Biphenyls in Samples from the Incineration of PCB Waste*
- *National Air Pollution Surveillance Annual Summary 1989*
- *National Air Pollution Surveillance Monthly Summary April 1, 1989 to March 31, 1991*
- *National Inventory of Sources and Emissions of Benzene*
- *National Inventory of Sources and Emissions of Carbon Dioxide*
- *National Urban Air Quality Trends (1978-1987)*
- *Ozone Concentrations and Trends in Southern Ontario and Southern Quebec (1983-1989)*
- *Reference Method for Source Testing: Measurement of Releases of Carbon Monoxide from Stationary Sources*
- *Reference Method for Source Testing: Measurement of Releases of Mercury from Mercury Cell Chlor-alkali Plants*
- *Reference Method for Source Testing: Monitoring of Gaseous Emissions from Fossil Fuel-fired Boilers*
- *A Report on Canada's Progress Towards a National Set of Environmental Indicators*

In keeping with its plan to produce a comprehensive national report every five years, SOE Reporting continued work on the flagship "State of the Environment Report," scheduled to be released in 1992.

Over the past year, SOE Reporting collaborated with other sections of Environment Canada, various federal departments, and others to produce four documents and two fact sheets. The following publications are now available to the public: *Canadian Perspectives on Air Pollution, Contaminants in Canadian Seabirds* (both a report and a fact sheet), *Contaminants in Herring Gull Eggs From the Great Lakes* and *A Report on Canada's Progress Towards a National Set of Environmental Indicators.*

Environmental Indicators

A Report on Canada's Progress Towards a National Set of Environmental Indicators is the result of collaborative efforts between SOE Reporting and numerous federal agencies. The report presents 43 preliminary indicators to characterize the state of the Canadian environment, and possible management responses. This initial set of indicators provides the basis for further consultations to improve, refine and augment the list, with the aim of reporting regularly on a comprehensive set in 1993.

Formulation of Release Guidelines and Codes of Practice

CEPA section 8 gives the Minister of the Environment the authority to formulate non-regulatory instruments, such as release guidelines and codes of practice, which provide environmental quality guidance to industries and regulators.

Codes and release guidelines under development include, for example, Thermal Power Generation Emissions: National Guidelines for New Stationary Sources, Revised (spring 1992); Environmental Codes of Practice for Steam Electric Power Generation, Operations Phase (summer 1992); and Environmental Codes of Practice for Steam Electric Power Generation, Decommissioning Phase (summer 1992).

Non-regulatory instruments already introduced under CEPA include: Environmental Codes of Practice for Steam Electric Power Generation, Design Phase; Thermal Power Generation Emissions: National Guidelines for New Stationary Sources; the Environmental Choice Program; and Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air Conditioning Systems. The following examples illustrate CEPA's non-regulatory measures.

Environmental Quality Guidelines and Objectives

CEPA section 8 gives the Minister the authority to formulate environmental quality guidelines and objectives. These non-regulatory instruments are

used to describe, in quantitative or narrative terms, the environmental quality that we wish to both attain and maintain.

In 1990-91, Environment Canada, together with the Canadian Council of Ministers of the Environment, issued supplements to the Canadian Water Quality Guidelines for trichloroethylene, polychlorinated biphenyls and chloroethanes–all priority substances. The Department published the related document, *A Protocol for the Derivation of Water Quality, Guidelines for the Protection of Aquatic Life.*

Work began on water quality guidelines for these priority substances: organotins, halogenated methanes, tetrachloroethylene, phthalates, polyaromatic hydrocarbons in water, polyaromatic hydrocarbons in marine sediments, effluents from pulp and paper mills using bleaching processes, styrene, dioxins and furans. These scientific guidelines describe the conditions required to protect aquatic life, as well as the water used for municipal water supplies, livestock watering and irrigation. They will be the basis for assessments and control measures.

Environment Canada has already introduced the National Ambient Air Quality Objectives for Air Contaminants, and over the past year developed the Canadian Environmental Quality Criteria for Contaminated Sites.

The Environmental Choice Program

The Minister of the Environment established the Environmental Choice Program to help Canadians identify products that are less harmful to the environment than other similar products on the market. The "EcoLogo," adopted as an official mark by Environment Canada, is the symbol of certification for goods and services that meet Environmental Choice criteria. These criteria are set by the Environmental Choice Board, an independent body appointed by the Minister. Manufacturers may apply to have their products evaluated against the criteria and receive a license to use the EcoLogo symbol.

By the end of March 1991, Environmental Choice had developed 18 final guidelines:

- re-refined lubricating oil;
- insulation from recycled wood-based cellulose fibre;
- products from recycled plastic;
- zinc-air batteries;
- water-based paint;
- fine paper from recycled paper;
- hobby craft forms from recycled paper;
- newsprint from recycled paper;
- heat-recovery ventilators;
- reusable cloth diapers;
- solvent-based paint;
- ethanol-blended gasoline;
- composting systems;
- reusable shopping bags;

- diaper services;
- non-rechargeable batteries;
- energy-efficient lamps; and
- water-conserving products.

Hundreds of products from 58 companies have already been licensed with the EcoLogo, and guidelines for many other products are now being developed.

A Code to Reduce CFC Emissions

The Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air Conditioning Systems will soon be published in the *Canada Gazette*. This code provides guidelines for the reduction of CFCs, and to the extent possible, for hydrofluorocarbons (HFCs) and hydrochlorofluorocarbons (HCFCs). It covers all refrigeration systems within residential, commercial and industrial facilities; heat pumps; and air conditioning, including mobile air conditioning.

Toxic Substances CEPA Part II

Part II regulates all stages in the life cycle of existing chemicals, as well as the entry of new chemicals into Canadian commerce.

All existing chemicals form the Domestic Substances List, and those known world-wide are included on the Non-Domestic Substances List.

Some existing chemicals, by virtue of their potential toxicity, appear on the Priority Substances List.

The Priority Substances List

The Priority Substances List (PSL) identifies 44 substances that must be urgently assessed for their effects on human health and the environment. The federal government conducts a scientific risk assessment to determine whether a substance is considered "toxic" under CEPA Part II.

When compiling the PSL, a multi-stakeholder advisory panel selected substances that met at least one of the following three criteria.

1. They cause, or have the potential to cause, adverse effects on human health or the environment.
2. They accumulate, or could accumulate, to significant concentrations in air, water, soil, sediment, or tissue.
3. They may be released into the environment in significant quantities or concentrations.

The Priority Substances List Assessment Activities

Group 1

Completed

Polychlorinated dibenzodioxins
Polychlorinated dibenzofurans

To be completed in 1991-92

Arsenic and its compounds
Benzene
Effluents from pulp mills using bleaching
Hexachlorobenzene
Methyl t-butyl ether
Polycyclic aromatic hydrocarbons
Waste crankcase oils

Group 2: To be completed in 1992-93

Cadmium and its compounds
Chlorinated wastewater effluents
Chlorobenzene
Chromium and its compounds
Creosote-impregnated waste materials
Dibutyl phthalate
1, 2-Dichlorobenzene
1, 4-Dichlorobenzene
1, 2-Dichloroethane
Dichloromethane
Di-n-octyl phthalate
bis (2-Ethylhexyl) phthalate
Inorganic fluorides
Nickel and its compounds
Pentachlorobenzene
Styrene
Tetrachlorobenzenes
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
Trichlorobenzenes
1,1,1-Trichloroethane
Trichloroethylene
Xylenes

Group 3: To be completed in 1993-94

Aniline
Benzidine
Chlorinated paraffin waxes
bis (2-Chloroethyl) ether
bis (Chloromethyl) ether
Chloromethyl methyl ether
3,3-Dichlorobenzidine
3,5-Dimethylaniline
Methyl methacrylate
Mineral fibres
Organotin compounds (non-pesticidal uses)

About one third of the priority substances are families of chemicals or effluents, each comprising up to several hundred substances.

Assessing Substances on the Priority Substances List

Section 13 of CEPA authorizes the preparation and publication of assessment reports that determine whether substances are toxic. Assessments are followed by "control option reports," the first step towards regulations.

The deadline to complete assessments of all 44 substances is February 11, 1994. Environment Canada established task groups to assess each substance on the PSL.

To ensure that the process stays on track, the CEPA Management Committee reviews the progress of task groups conducting the assessments.

As of March 31, 1991 the process was behind schedule, but both Environment Canada and Health and Welfare Canada have identified priorities to ensure that all PSL substances will be assessed within the timeframe set out under CEPA.

The first assessment on dioxins and furans was published in April 1990. In that report, Environment Canada and Health and Welfare Canada concluded that, due to their effects on both the environment and human health, dioxins and furans are considered "toxic" as defined in CEPA.

Based on this determination, dioxins and furans will be added to the List of Toxic Substances and, by the end of 1991, regulations will be

CEPA Priority Substances Task Groups

1. Arsenic and its compounds
2. Benzene
3. Pulp mill effluents
4. Methyl t-butyl ether
5. Dioxins and furans (2 substances)
6. Polycyclic aromatic hydrocarbons
7. Waste crankcase oils
8. Chlorobenzenes (7 substances)
9. Cadmium and its compounds
10. Chromium and its compounds
11. Nickel and its compounds
12. Chlorinated wastewater effluents
13. Creosote-impregnated wastes
14. Phthalates (3 substances)
15. Chlorinated ethanes (3 substances)
16. Dichloromethane
17. Fluorides
18. Styrene
19. Toluene and Xylenes (2 substances)
20. Trichloroethylene
21. Tetrachloroethylene
22. Aromatic amines (4 substances)
23. Chloroalkyl ethers (3 substances)
24. Chlorinated paraffin waxes
25. Methyl methacrylate
26. Mineral fibres
27. Organotin compounds

introduced under CEPA to control their release in pulp mill effluents, and their precursors in defoamers and woodchips.

Over the last year, Environment Canada also completed the scientific work on effluents from pulp mills that use a bleaching process. The results, contained in "CEPA Assessment Report No. 2 on Effluents from Mills Using Bleaching," will be published in November 1991.

Additional assessment reports from task groups assigned to review benzene, toluene and xylenes, and methyl t-butyl ether will be completed by the end of 1992.

Collection of Data

Sections 16 through 18 of CEPA allow the federal government to collect data and samples concerning the production, applications and importation of substances. Environment Canada used section 16 in February 1991 to gather current and projected commercial data on methyl t-butyl ether, a gasoline additive that enhances octane. This information was analyzed and is currently being incorporated into a draft assessment report.

The Department used section 18 in December 1990 to gather commercial information on chloranil and related dyes and pigments. The data helped researchers investigate the potential for these materials to be contaminated by dioxins.

Confidentiality of Information

In some circumstances, a person may submit a written request for confidentiality when providing information on toxic substances (section 19). Section 20 provides for the non-disclosure of information that has been submitted with a request for confidentiality.

Disclosure of Information

Information collected under CEPA may be disclosed if it deals with:

- general data on uses of a substance;
- safe handling precautions;
- recommended methods for disposal and elimination of a substance;
- safety measures to be taken in case of accidents involving a substance;
- physical and chemical data that do not reveal the identity of a substance;
- health and safety data;
- occupational exposure studies;
- toxicological, clinical and ecological studies of a substance;
- tests performed under CEPA; and
- test methods and results of product or environmental testing when carried out by, or on behalf of, a government institution, unless it was done for a fee.

In 1990-91, Environment Canada received two requests for information related directly to CEPA. In accordance with the *Access to Information Act* and CEPA section 20, Environment Canada released the requested information on review boards, inspections and penalties. Environment Canada also responded to a number of other requests that partially dealt with information collected under CEPA. In each case, the release of information adhered to the *Access to Information Act.*

The Domestic Substances List

The Domestic Substances List (DSL) serves as an inventory of more than 21,000 substances manufactured in, or imported into Canada on a commercial scale between 1984 and 1986. Required by CEPA section 25, it was published in the January 26, 1991 edition of *Canada Gazette Part I.*

Environment Canada compiled the Domestic Substances List in three phases.

- After surveying 150 major Canadian chemical manufacturers and importers, the government published a core list of 9,000 substances in August 1989.

- Between April 1989 and January 1990, other Canadian importers and manufacturers were asked to submit additional nominations. Environment Canada first judged the eligibility of these nominations, and then added substances to the core list. The result was the April 1990 publication of the Provisional Domestic Substances List, consisting of 18,300 entries.

- Over the months that followed, Environment Canada invited interested parties to advise the Department of any errors or omissions.

This collection and review process culminated with the publication of the Domestic Substances List.

The Non-Domestic Substances List

The Non-Domestic Substances List comprises 40,000 substances known to be commercially available, but not on the Canadian market between 1984 and 1986. It was published in the *Canada Gazette Part I* on January 26, 1991, together with the Domestic Substances List.

New Substances

Substances not on the DSL are considered new to Canada. CEPA requires that the Minister of the Environment be notified before such substances are manufactured or imported on a commercial scale. New Substances Notification Regulations, expected to come into force in early 1993, will mark the beginning of CEPA's New Substances Assessment Program.

In addition, draft notification regulations for biotechnology products were broadly distributed for public comment in September 1990. Consultations held in January 1991 provided the basis for revisions to the regulations.

Regulations Introduced in 1990-91

As of March 31, 1991, there were 18 regulations and two interim orders under CEPA.

Controlling Ozone Depleting Substances

CFCs and halons deplete the atmosphere's ozone layer and adversely affect the climate. Recognizing this, Canada joined 24 other nations in signing the United Nations Environmental Programme Montreal Protocol on Substances that Deplete the Ozone Layer in September 1987. The aim was to prevent a global environmental and health problem of crisis proportions.

The Ozone Depleting Substances Regulations for CFCs No. 1, signed by the federal government on July 1, 1989, is in place to help Canada meet its international obligations to protect the ozone layer.

The Ozone Depleting Substances Regulations for Halons No. 2, signed on September 12, 1990, will help Canada meet its commitment to freeze the consumption of halons at 1986 levels in upcoming years.

Also on September 12, 1990, the government published the Ozone Depleting Substances Regulations for CFCs No. 3 to prohibit the use of CFCs in small cans of refrigerant, foam for food packaging, party streamers, fog horns and most aerosols. Aerosols are still permissible for certain medical and industrial applications.

Over the past year, Environment Canada consulted with the following CFC end-use sectors:

- rigid foams;
- flexible foams;
- solvents and general cleaning products; and
- air conditioners for automobiles.

Environment Canada plans to amend the Ozone Depleting Substances Regulations No. 3 to prohibit the use of CFCs in these applications in 1991.

At a meeting in June 1990, the parties to the Montreal Protocol decided to amend their agreement by accelerating the phase-out schedule for CFCs and halons to the year 2000. Carbon tetrachloride and methyl chloroform

were also added to the list of substances to be eliminated. At the same meeting, Canada committed to an even tighter deadline of 1997 for the phase-out of CFCs.

Accordingly, Environment Canada will have to amend its Ozone Depleting Substances Regulations for CFCs No. 1 and Ozone Depleting Substances Regulations for Halons No. 2. In addition, the Department plans to develop a fourth set of regulations to eliminate the use of carbon tetrachloride and methyl chloroform in Canada.

Current Regulations and Interim Orders Under CEPA

Regulation	Publication Date *Canada Gazette Part II*
Chlorobiphenyl Regulations (rollover to CEPA from the *Environmental Contaminants Act*)	March 1991
Release of Lead from Secondary Lead Smelters (rollover to CEPA from the *Clean Air Act*)	March 1991
Ozone Depleting Substances Regulations No. 2 (Freeze consumption of halons)	September 1990
Ozone Depleting Substances Regulations No. 3 (Prohibit certain uses of CFCs and halons)	September 1990
Export of PCB Waste Regulations	August 1990
Asbestos Mines and Mills Release Regulations (rollover to CEPA from the *Clean Air Act)*	July 1990
Gasoline Regulations	May 1990
Vinyl Chloride Release Regulations (rollover to CEPA)	February 1990
Chlor-Alkali Mercury Release Regulations (rollover to CEPA)	February 1990
Mirex Regulations (rollover to CEPA)	February 1990
Polychlorinated Terphenyl Regulations (rollover to CEPA)	February 1990
Chlorofluorocarbon Regulations (rollover to CEPA)	February 1990
Polybrominated Biphenyl Regulations (rollover to CEPA)	February 1990
PCB Treatment and Destruction Regulations	January 1990
Phosphorus Concentration Regulations (rollover to CEPA)	November 1989
Ocean Dumping Regulations (rollover to CEPA)	November 1989
Ozone Depleting Substances Regulations No. 1	July 1989
Fuels Information Regulations No. 1	August 1977
Interim Orders	**Issued**
Contaminated Fuel Interim Order	May 1989
Storage of PCB Wastes Interim Order	September 1990

Reducing Lead Emissions

Lead is potentially toxic in most, if not all, of its chemical and physical forms. In urban Canada, lead additives in gasoline have been the largest single source of lead in the atmosphere. Canada's new Gasoline Regulations should significantly reduce the level of lead particles in the air. The regulations were published in May 1990 and came into force on December 1, 1990. They prohibit the use of leaded gasoline in most vehicles, including automobiles. While leaded gasoline may still be used to power farm machinery, boats, and trucks that weigh more than 3,856 kilograms, the concentration of lead may not be greater than 26 milligrams per litre of gasoline.

Restricting Asbestos and Lead Emissions

Regulations restricting asbestos and lead, previously under the *Clean Air Act* and published as an interim order in 1989, are now part of CEPA. The Asbestos Mines and Mills Release Regulations limit the concentration of asbestos fibres in gases emitted into the ambient air at mines and mills. The Release of Lead from Secondary Lead Smelters Regulations limit the concentration of particulate matter containing lead emitted into the ambient air by secondary lead smelters. Both regulations also contain requirements regarding plant malfunctions, emissions testing and reporting.

Reducing Chlorobiphenyl Release

These regulations, previously under the *Environmental Contaminants Act*, then incorporated into an interim order, were rolled over to CEPA in March 1991. The regulations prohibit the manufacture, sale or importation of chlorobiphenyls for certain commercial, manufacturing or processing uses; determine maximum concentrations in products; and specify maximum quantities and concentrations that may be released into the environment.

Preventing the Export of PCB Waste

With the publication of the Export of PCB Waste Regulations in August 1990, the export of PCB waste is now banned with the exceptions of PCB waste shipped to the United States, and PCBs shipped in small-sized electrical equipment with less than 500 grams of PCB parts per product.

Planned Regulatory Initiatives

As shown in the following table, Environment Canada intends to introduce approximately 20 new regulations, and will continue to make amendments on existing regulations under section 34 of CEPA. The most significant regulations in the upcoming year will be those controlling dioxins and furans in pulp and paper mill effluents.

Timetable of Planned Regulations

Regulatory Initiative	Expected Year of Publication *Canada Gazette, Part II*
Chlorinated Dioxins and Furans Release in Pulp and Paper Mill Effluents Regulations	1991
Contaminated Fuel Regulations	1991
Ozone Depleting Substances Regulations No. 3, Amendments (To ban the use of halons in fire extinguishers)	1991
Pulp and Paper Mill Defoamer and Wood Chips Regulations	1991
Toxic Substances Export Notification Regulations	1991
Administrative Rules for Environmental Protection Boards of Review	1992
Air Emissions Regulations for Boilers at Federal Facilities	1992
Chlorinated Organic Substances in Pulp and Paper Mill Effluents	1992
Diesel Quality Regulations (Sulphur content in diesel fuel)	1992
Export and Import of Hazardous Wastes Regulations	1992
Ozone Depleting Substances Regulations No. 4 (Methyl Chloroform and Carbon Tetrachloride)	1992
PCB (Chlorobiphenyl) Regulations, Amendments	1992
Storage of PCB Wastes Regulations	1992
Vinyl Chloride Release Regulations, Amendments	1992
Release of Lead from Secondary Lead Smelters, Amendments	1992
New Substances Notification for Polymers and Chemicals	1992-93
Non-hazardous Solid Waste Incinerators at Federal Facilities	1992-93
Ocean Dumping Regulations, Amendments Phase I	1992-93

Timetable of Planned Regulations

Regulatory Initiative	Expected Year of Publication *Canada Gazette, Part II*
Ozone Depleting Substances Regulations No. 1, Amendments (To reduce CFC consumption by 100% by 1997)	1992-93
Ozone Depleting Substances Regulations No. 2, Amendments (To reduce halon consumption by 100% by year 2000)	1992-93
Ozone Depleting Substances Regulations No. 3, Amendments (To prohibit the use of CFCs in certain products)	1992-93
Confidential Information Disclosure Regulations	1993
Hazardous Waste Management at Federal Facilities	1993
Fines and Execution of Orders Proceeds Regulations	1993
Contingency Planning at Federal Facilities	1993
New Substances Notification for Biotechnology Products	1995-96
Ocean Dumping Regulations, Amendments Phase II	Unscheduled
Landfill Operations and Management at Federal Facilities	Unscheduled
Wastewater Regulations for Federal Facilities	Unscheduled
Spill Reporting	Unscheduled

Interim Orders

When a substance is believed to be toxic, or when a substance specified on the List of Toxic Substances is not adequately regulated and represents a significant danger to the environment or to human life or health, CEPA gives the Minister of the Environment, with the concurrence of the Minister of Health and Welfare, the authority to take immediate action in the form of an interim order (CEPA section 35).

The majority of interim orders issued since the inception of CEPA have now become regulations. The Contaminated Fuel Interim Order and the

Storage of PCB Wastes Interim Order will remain in force until they are replaced by regulations in 1992.

The Minister issued the Contaminated Fuel Interim Order on May 12, 1989 to address the matter of illegal shipments of fuels contaminated with hazardous wastes from the United States.

The Storage of PCB Wastes Interim Order was issued on September 17, 1990. It developed as a result of the St-Basile-le-Grand fire, which highlighted the need to ensure, on a national basis, that PCB wastes are stored under conditions that do not pose any threat to the environment or to human life or health.

The following table lists the interim orders issued under CEPA to the end of March 1991, including those necessitated by imprecise wording of CEPA sections 33 and 34 (See "Amendment of CEPA" on page 41).

Interim Orders Replaced by Regulations

The Contaminated Fuel Interim Order is scheduled to be replaced by a regulation in August 1991, and the Storage of PCB Wastes Interim Order is scheduled to be replaced by a regulation in 1992.

These interim orders, issued under CEPA since the Act came into force in 1988, have now been replaced by regulations:

Asbestos Mines and Mills Release Interim Order
Chlor-alkali Mercury Release Interim Order
Chlorobiphenyls Interim Order
Chlorofluorocarbon Interim Order
Mirex Interim Order
Polychlorinated Terphenyl Interim Order
Release of Lead from Secondary Lead Smelters Interim Order
Vinyl Chloride Release Interim Order
Polybrominated Biphenyls Interim Order

Release of Toxic Substances

The dangers posed by the release of toxic substances into the ecosystem are addressed in sections 36 through 38. CEPA provides for reporting and precautionary measures, including the notification of inspectors and any member of the public who may be adversely affected by the impending threat. Over the past year, Environment Canada did not receive any voluntary reports.

To be prepared for this type of situation, the Department's Environmental Emergencies Branch surveyed existing spill reporting legislation at the federal and provincial levels. Their information will be compiled in a report to be released in early 1992.

Recovery of Reasonable Costs

CEPA makes provisions for the recovery of costs where the Department must step in to control the release of toxic substances. Under sections 39 and 77, when polluters fail to take preventive measures to correct their contravention of a CEPA regulation or interim order, the federal government may take action and reclaim the expenses. Environment Canada has not yet had a reason to invoke this section.

Export and Import of Hazardous Wastes

Section 43 of CEPA defines the term "hazardous waste" and gives the Minister of the Environment the authority to:

- compile a list of hazardous wastes requiring export and import notification;
- develop a list of hazardous waste authorities to which notification should be given; and
- set regulations governing the form of the notice.

Further, sections 44 and 45 authorize the development of regulations specifying conditions under which hazardous wastes may be exported and imported.

Meeting the Objectives of the Basel Convention

Canada, along with 33 other countries, signed the Global Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal in Basel, Switzerland on March 22, 1989. This agreement comes into force when 20 countries have ratified it, that is, have domestic regulations in place to conform with its objectives. The convention seeks to:

- reduce the generation of hazardous wastes;
- ensure disposal of as much hazardous waste as is possible in the country of generation;
- establish better controls on hazardous waste exports and imports;
- prohibit any imports and exports to countries lacking the legal, administrative and technical capacity to manage and dispose of hazardous wastes in an environmentally sound manner; and
- encourage the exchange of information, technology transfer, and the harmonization of standards, guidelines and codes.

To date, 11 countries have ratified the Basel Convention, and it is possible that the required ratification by 20 countries will be in place by the end of 1991. To meet its commitment, Canada is developing Regulations Respecting the Export and Import of Hazardous Wastes under CEPA sections 44 and 45. These should be finalized during 1992.

Environment Canada compiled and published, with the assistance of the Department of External Affairs, the *List of Hazardous Waste Authorities.* This list continues to be updated by various international authorities.

The Departments are developing a second document, *Hazardous Wastes Requiring Notification*, which will be used as a reference for the proposed Regulations Respecting the Export and Import of Hazardous Wastes.

In addition, a task force is in place to resolve the issue of controls for hazardous recyclables. Members of the task force have proposed a three-tier control system based on an international scheme developed by the Organization for Economic Cooperation and Development.

The Basel Convention also provides for bilateral agreements that do not derogate from international arrangements. The vast majority of Canadian hazardous waste shipments occur between Canada and the United States and are governed by the 1986 Canada-United States Agreement on the Transboundary Movement of Hazardous Wastes.

Fuel Restrictions

CEPA section 46 prohibits the domestic production or importation of fuels if Canadian standards are not met. Section 47 allows the federal government to create fuel regulations.

Under the new Gasoline Regulations, Environment Canada conducted 1,141 inspections, followed up with two investigations, and issued five warnings between December 1, 1990 and March 31, 1991.

Nutrients CEPA Part III

Sections 49 to 51 define and help regulate cleaning agents, nutrients and water conditioners. The Phosphorus Concentration Regulations, rolled over to CEPA, is the only set of regulations under this section. Over the past year, Environment Canada used these regulations to conduct 137 inspections and one investigation.

Controls on Federal Departments, Crown corporations & Agencies CEPA Part IV

Part IV of CEPA gives the Minister of the Environment the authority to regulate emissions and effluents resulting from activities of federal departments, Crown corporations and federal agencies, as well as waste handling and disposal practices. It provides the Minister with the authority to make regulations that apply to federal lands, works and undertakings where no other Act of Parliament applies.

Regulations are planned for the following:

- air emissions at federal boilers (summer 1992);
- municipal-type incinerators (fall 1992);
- hazardous wastes (fall 1993); and
- emergencies (1993).

Regulatory initiatives for wastewater treatment and landfills, announced in last year's annual report, have been deferred due to a shift in priorities and limited resources.

Environment Canada has decided to prepare guidelines, rather than regulations, for underground storage tanks.

In March 1991, the Ontario regional office published a manual on the management of underground petroleum storage tanks at federal facilities in Ontario.

International Air Pollution CEPA Part V

CEPA Part V governs domestic sources of international air pollution. The Minister of the Environment may regulate sources of pollution that violate international agreements or create air pollution in other countries. This authority can be exercised only if the Minister is unsuccessful in making the provinces, in which the sources are situated, bring about the necessary measures to control the pollution.

Canada has secured the provinces' commitment to meet the obligations of the United Nations Economic Commission for Europe's Sulphur Dioxide Protocol. Bilateral agreements with each of the seven easternmost provinces should lead to a 30 percent reduction of national sulphur dioxide emissions by 1993.

Canada is dedicated to reducing urban smog through two new international agreements: the Nitrogen Oxides Protocol and the Volatile Organic Compounds Protocol, reached under the United Nations Economic Commission for Europe and the Canada-United States Air Quality Accord. These obligations may lead to new federal-provincial agreements that will secure support from the provinces on reducing urban smog.

As a result of these commitments with the provinces, it was not necessary to take any actions under CEPA Part V in 1990-91, nor are any planned.

Controlling Substances at Sea CEPA Part VI

The government is committed to stringent and effective controls on ocean dumping. CEPA Part VI, formerly the *Ocean Dumping Control Act*, regulates:

- the disposal of all types of material at sea, including destruction at sea by incineration; and
- the loading of wastes on ships, aircraft, platforms or other man-made structures for disposal at sea.

Through CEPA, the federal government implements the provisions of the London Dumping Convention, including a recent resolution by the international parties to ban the ocean disposal of industrial wastes globally by the end of 1995.

All ships, aircraft, platforms or man-made structures—whether Canadian or foreign—require a permit to dispose of waste in Canada's waters.

The terms and conditions of a permit vary with the type of material being discarded. Permits may govern timing, handling, storage, loading, placement at the disposal site, and monitoring requirements.

A company applying for a permit from Environment Canada must first publish a notice of intent in a newspaper in the vicinity of the proposed operation. This is a statement outlining what is to be discarded and the locations of loading and dumping. The company then submits this published announcement with a permit application. A notice of intent allows interested people to express their concerns, and have them addressed, before Environment Canada assesses an application. In addition, all ocean disposal permits and their amendments must appear in the *Canada Gazette* before coming into force.

The Department will not issue a permit if the disposal is already prohibited under any other Act of Parliament, or if the company does not hold a license or permit required under any Act. This is a way of ensuring that the federal government has a comprehensive approach to waste management.

Environment Canada considers a number of factors before granting a permit, namely:

- human health risks;
- potential environmental impacts;
- hazards associated with treatment, packaging, transport and disposal;
- alternative methods of disposal;
- economics, including energy costs; and
- conflicts with other legitimate uses of the sea.

In some cases, the Department relies on physical, chemical and biological tests to determine the potential danger of a substance. A material that fails these tests cannot be disposed of at sea in an unconfined site.

In 1990-91, outright rejections were given for applications to dispose of such substances as dioxins, sewage, scrap tires and oil. Where test information is inadequate or out-dated, applications are rejected until further testing. Refusals may be subject to appeal.

In 1990-91, of the total number of applications for ocean dumping, 13 were rejected and 38 required additional testing before permits were granted.

Permits Issued in 1990-91

Material	Quantity	Percentage of Total Quantity	Number of Permits	Percentage of Total Permits
Dredged Material	4,404,200 m^3 or 5,725,460 t	69.2	77	39.9
Fish Offal	157,824 t *	1.9	95	49.2
Excavation Material	2,374,750 t	28.7	9	4.7
Vessels	2,937 t	less than 1	9	4.7
Gypsum (wallboard)	10,000 t	less than 1	1	0.5
Test Burn	n/a **	---	1	0.5
Cement Pier	222 t	less than 1	1	0.5
Total	8,271,193 t	100	193	100

Excavated and dredged material data assumes a density of 1.3.

* This does not include 10 "load only" permits issued for loading herring waste, but does include shellfish waste.

** Permit issued to a barge-mounted incinerator to test compliance with federal air emission guidelines.

Environment Canada issued 193 ocean disposal permits for an estimated total of 8.3 million metric tonnes (t) of material.

About 40 percent of the total permits allowed the disposal of dredged material such as rocks, gravel, sand, silt, clay and wood wastes. The number of permits issued for dredging decreased from 101 in 1989-90, to 77 in 1990-91, as did the volume of material, from 6.5 million t in 1989-90 to 5.7 million t in 1990-91.

Another 49 percent of the total permits granted over the last fiscal year covered the disposal of fish offal, including shells, herring waste and fish processing wastewater (stick water). The percentage of the total volume, however, is small in comparison to the number of permits. These substances weighed 0.2 million t, or about two percent of the total quantity of disposed substances in 1990-91.

Excavation material such as soil and rocks accounted for 4.7 percent of the number of permits, but made up about 2.4 million t or 28.7 percent of the total quantity of disposed substances.

Other permits, including nine for vessels, one for a cement pier and one for gypsum wallboard, accounted for 1.5 percent of all permits and less than one percent (13,159 t) of the total tonnage permitted. Environment Canada issued one permit for a barge-mounted incinerator in order to verify compliance with new federal air emission guidelines.

Research Activities

To better understand the possible environmental effects of ocean disposal, Environment Canada continues to improve the tools used in assessing materials intended for dumping.

Biological assays, or "bioassays" are becoming standard assessment tools. These are controlled experiments that measure, quantitatively, the effect of a substance on a living organism. Environment Canada already uses certain protocols to assess the quality of effluents, and is now developing the same type of standardized methods to test sediments.

The first whole-sediment bioassay will examine crustaceans. Results from preliminary tests look encouraging. After a second round of tests, the Department intends to publish a final protocol in the summer of 1992.

Development is also under way on bioassays using different species, such as marine worms, oyster and sea urchin larvae, and various "end points," such as mortality, effects on growth, fertilization and reproduction. In addition, researchers will complete a bioassay on photobacteria. These bioassays will be used alongside physical and chemical tests to screen dredging applications.

Scientists have also begun work on scientifically defensible marine sediment quality guidelines in support of CEPA Part IV. Environment Canada hopes that these guidelines will eventually allow the Department to set safe "no effects" screening levels, below which ocean dumping would normally be permitted, and "rejection levels," above which no ocean dumping would be allowed. In 1990-91, work began on a protocol to

describe how such guidelines would be developed. In addition, staff began to assemble background material for polyaromatic hydrocarbon guidelines. Finally, the Department is compiling a data base on the effects of contaminants on organisms dwelling in marine sediments. The result of research from many sources, this information will provide a framework for future sediment quality guidelines.

Inspections and Legal Actions

Environment Canada staff regularly monitor dump sites where they have issued permits. Monitoring is a means of evaluating their decision to issue a permit under each circumstance, as well as a means of verifying compliance with the terms of a permit.

Over the course of the year, 150 inspections were conducted under the Ocean Dumping Regulations, of which seven led to investigations and 11 others resulted in warnings. Three incidents of violating CEPA's Ocean Dumping Regulations were brought before the courts during the last fiscal year.

- Beaver Marine Construction Group of Nova Scotia was fined $2,000 for dumping without a permit.

- A case against Crown Zellerbach of British Columbia has been active since 1981, when charges were laid against the company for not complying with its permit. After several appeals in the provincial courts of British Columbia and the Supreme Court of Canada, the company was convicted on two charges in May 1989. In October, 1990, the court imposed an $8,000 fine.

- Bay Bulls Sea Products Ltd. of Newfoundland was charged with illegally dumping fish waste into the sea from a dock. The company pleaded guilty and was fined $3,000.

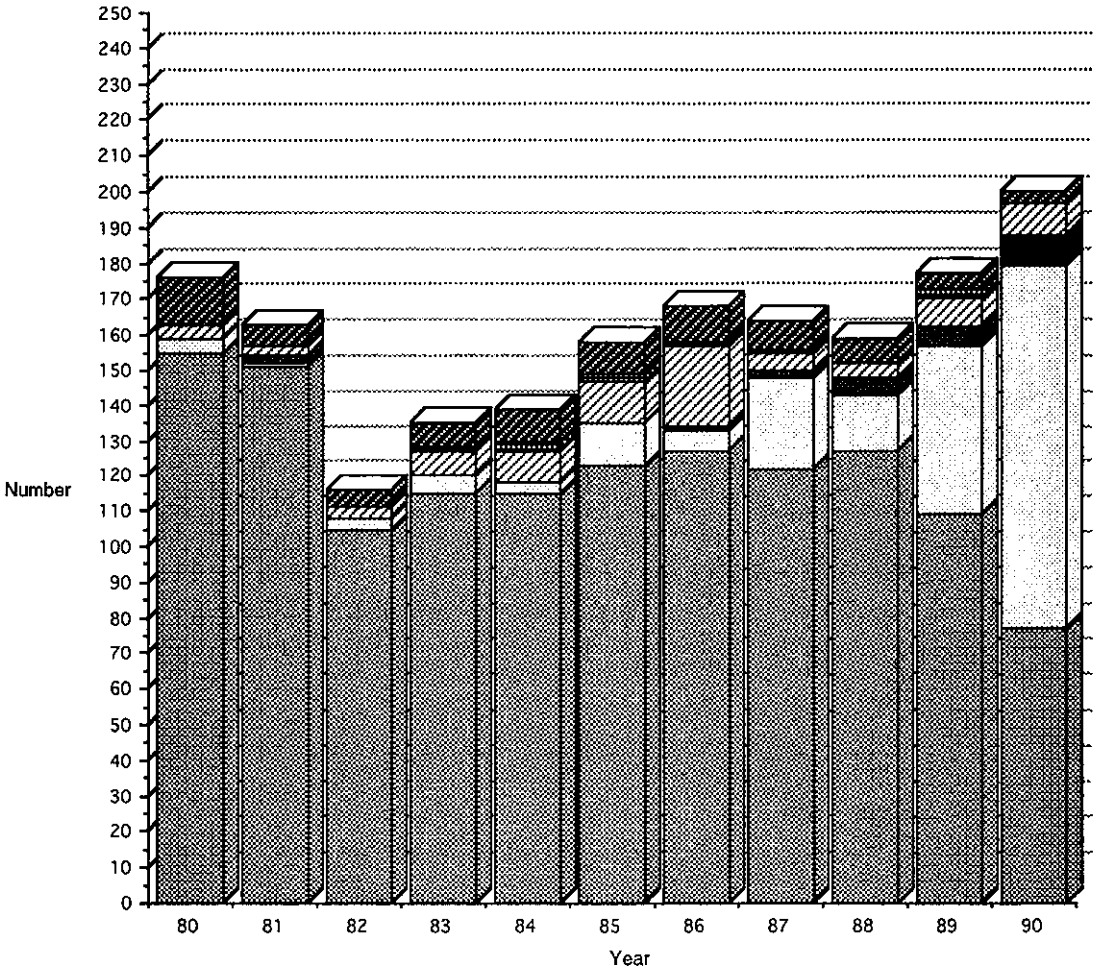
Ocean Dumping Action Plan

The government announced an Ocean Dumping Action Plan as part of *Canada's Green Plan*. Resources will be directed towards:

- an ocean dumping research fund;
- development and implementation of effects monitoring programs;
- increased monitoring of ocean disposal sites;
- ways of reducing plastic debris in our oceans;
- creation of environmental quality guidelines;
- improved assessment procedures to characterize material intended for disposal;
- more stringent testing requirements; and
- investigation of alternate methods of treatment and disposal, including recycling.

Controlling Substances at Sea: Trends Over the Decade

Number of Permits Issued Between 1980 and 1990

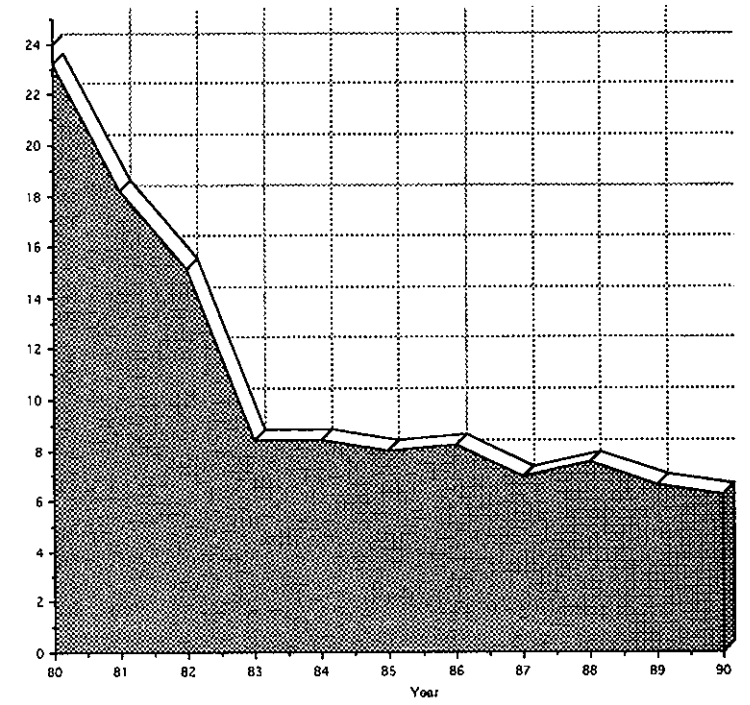


This information was prepared on a calendar year basis for the International Maritime Organization in London. Since the inception of CEPA in 1988, reports are tabulated on a fiscal year basis. Data from 1990 will vary slightly from 1990-91 fiscal year data, but the trends remain valid.

CONTROLLING SUBSTANCES AT SEA: TRENDS OVER THE DECADE

Quantity of Dredged Material for Permits Issued Between 1980 and 1990

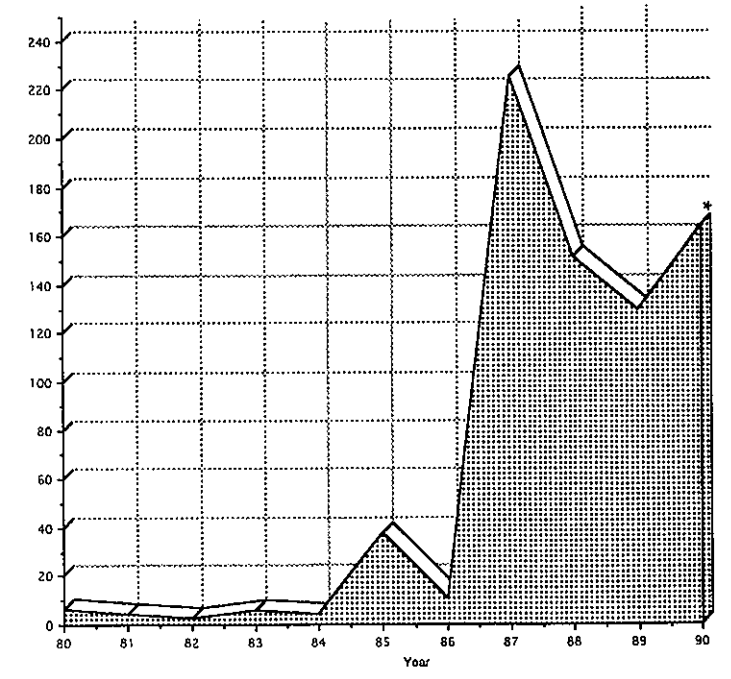
Dredged material, normally measured in m^3, has been converted here to metric tonnes (assuming a density of 1.3). The quantity of dredged material approved for dumping fluctuates each year because of variations in the number of dredging projects where quantities exceed 1,000,000 m^3 (1,300,000 metric tonnes). In fact, the number of small to medium-sized dredging projects (less than 100,000 m^3) remains fairly constant.



Quantity of Fish Offal for Permits Issued Between 1980 and 1990

The largest increase in the number of non-dredged permits is for fish offal. Prior to 1985, there was a lack of awareness in the fishing industry of permit requirements and this is reflected in the low number of permits and quantities in the early part of the decade.

The number of fish offal permits increased four-fold in the Atlantic Region between 1987 and 1990. This increase largely reflects a regional effort to improve awareness, within the industry, of permit requirements, and does not necessarily reflect a significant increase in fisheries-related disposal activity.

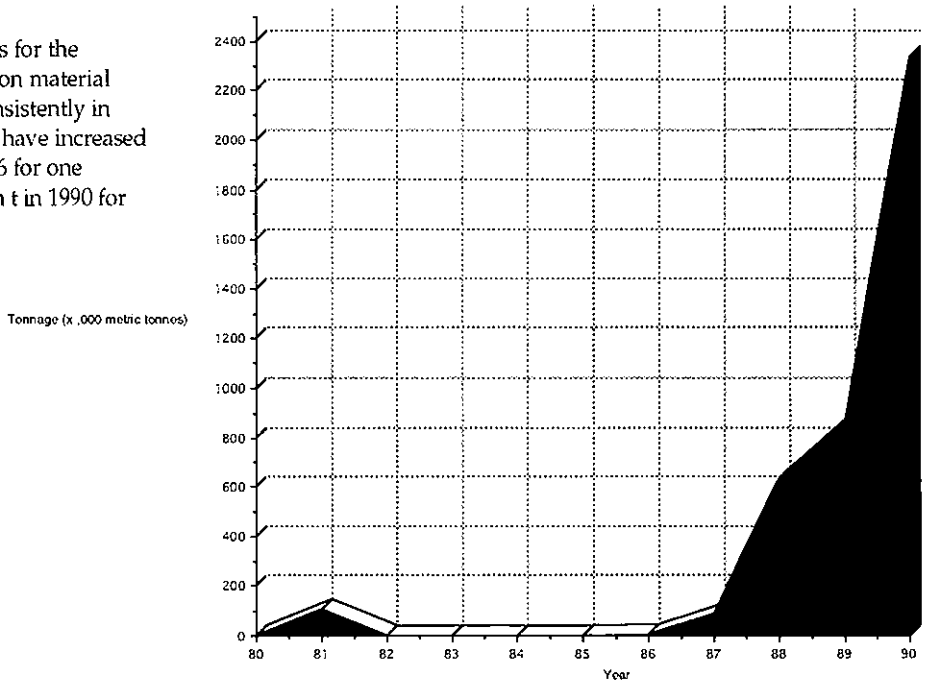


*does not include 10 "load only" permits issued to control the loading methods of herring waste

Controlling Substances at Sea: Trends Over the Decade

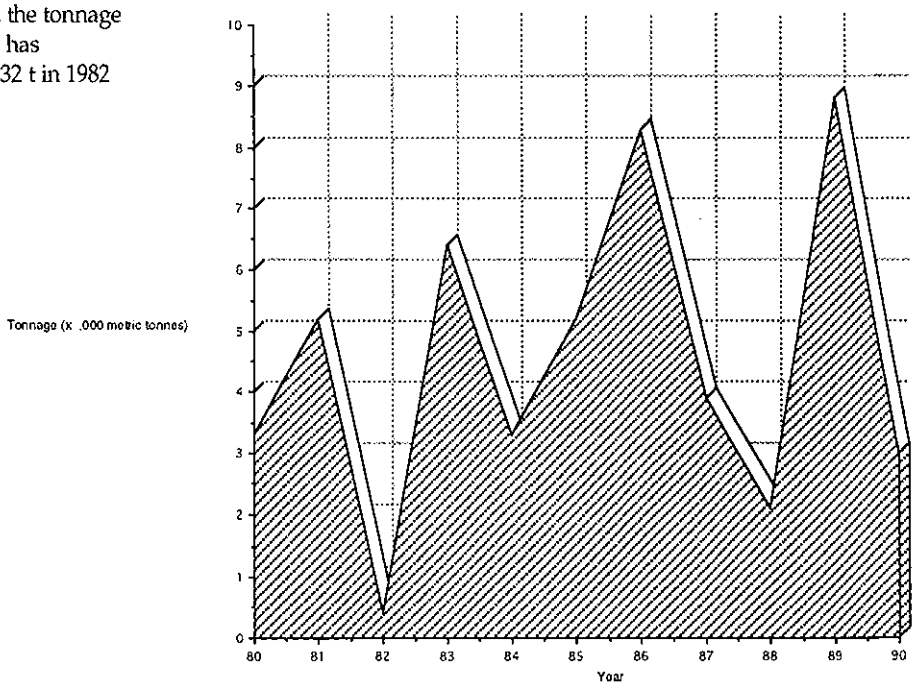
Quantity of Excavation Material and Construction Rubble for Permits Issued Between 1980 and 1990

Requests for permits for the disposal of excavation material began to appear consistently in 1986 and quantities have increased from 10,000 t in 1986 for one permit to 2.4 million t in 1990 for nine permits.



Quantity of Ship Disposal for Permits Issued Between 1980 and 1990

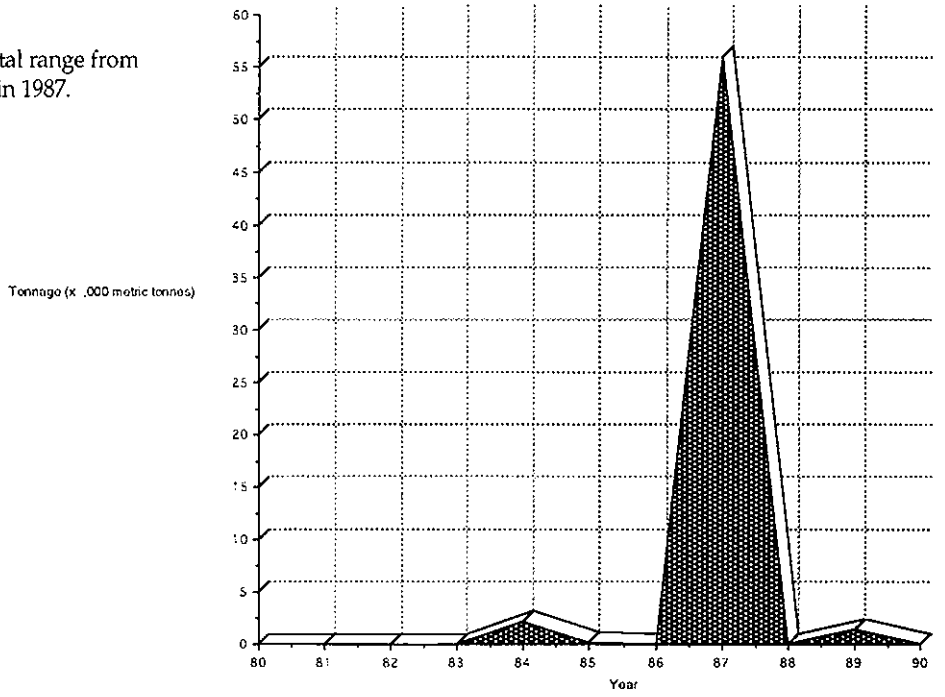
Over the last decade, the tonnage permitted for vessels has fluctuated between 432 t in 1982 to 8770 t in 1989.



CONTROLLING SUBSTANCES AT SEA: TRENDS OVER THE DECADE

Quantity of Scrap Metal for Permits Issued Between 1980 and 1990

Quantities of scrap metal range from 10 t in 1983 to 56,076 t in 1987.



Forecasts

While maintenance dredging operations in 1991-92 should remain stable in the Atlantic, Western and Northern Regions, Quebec foresees a slight increase in dredging projects. The Pacific and Yukon Region predicts an increase in activity as businesses are forced to resume maintenance dredging to continue operation.

In the Atlantic, quantities of fish offal proposed for dumping will continue to be linked to the success of herring catches, the markets for fish and fish offal, and the availability of disposal and recycling alternatives. In the Quebec Region, permits for the disposal of fish offal should remain stable as increased emphasis is placed on the re-use and recycling of organic wastes. Continued research into recycling and re-use of gypsum wallboard in the Pacific Region should lead to a complete ban on the disposal of gypsum at sea by 1995.

Canada has no plans to allow incineration at sea of hazardous liquid wastes and supports the London Dumping Convention resolution to re-evaluate incineration at sea with a view to terminating this practice by December 31, 1994.

Canada does not allow dumping of radioactive wastes, and supports the voluntary London Dumping Convention moratorium on this practice. Any decision regarding permits for sea dumping of radioactive wastes are being held in abeyance pending the outcome of a comprehensive international review on the issue.

Canada is committed to the London Dumping Convention resolution banning ocean dumping of industrial waste by 1995. Industrial waste refers to that generated by manufacturing or processing operations. It does not include naturally occurring inert materials and uncontaminated organic materials. These materials may be dumped as long as they do not interfere with other legitimate uses of the sea.

General Information CEPA Part VII

Notices of Objection and Boards of Review

Under CEPA, any individual may file a "notice of objection." This gives an interested party the opportunity to formally appeal a decision or proposed regulation, and have the complaint duly considered.

As CEPA is organized by subject areas, guidelines for notices of objection appear in numerous sections. Those dealing with nutrients are covered in section 51(2), while notices related to controls on international air pollution are detailed in section 62(2). Notices appealing decisions on ocean dumping permits are addressed in section 74, and so on. Each subject area has its own set of terms for notices of objection.

Upon receiving a notice of objection, the Minister of the Environment (and the Minister of Health and Welfare, as the case may be) may establish a board of review to examine the complaint. Guidelines for this procedure are explained in sections 89 to 97 of CEPA. While some notices of objection have been filed under the Act since it first came into force, the federal government has not established any boards of review to date. Over the next year, Environment Canada will develop and publish comprehensive rules on boards of review.

Enforcement and Compliance

Environment Canada's Enforcement and Compliance Policy for CEPA establishes fair and consistent principles. The policy tells everyone who shares a responsibility for protecting the environment—governments, industry, organized labour or individuals—what is expected of them.

A network of certified enforcement officers conduct inspections to verify compliance with the regulations. They follow the Enforcement and Compliance Policy and determine how to respond to a violation by considering both the nature of the offence and the violator's willingness to comply.

Nature of the Violation

Factors include:

- consideration of the seriousness of the harm or potential harm;
- intent of the alleged violator;
- whether this is a repeat occurrence; and
- whether there are attempts to conceal information or otherwise subvert the objectives and requirements of the Act.

Willingness to Comply

Factors include:

- the violator's history of compliance;
- willingness to cooperate; and
- evidence of corrective action already taken.

It is mainly the job of the inspector to verify compliance with the Act. It is the job of the investigator to examine cases of non-compliance. Both may issue a warning recommending a specified course of corrective action, or a direction to remedy any dangerous condition, or to reduce any danger to the environment or human health.

If non-compliance still persists, charges may be laid, and prosecution may follow. A procedure is being established to allow enforcement officers to issue on-the-spot tickets when they discover non-compliance with certain CEPA regulations. Contraventions to CEPA may result in significant penalties, ranging from fines of up to $300,000 or imprisonment up to six months, or both; to fines of up to $1 million or imprisonment up to three to five years, or both. Such fines are only for the most serious cases; no charges or convictions have reached this order of magnitude to date.

Activities to Promote Compliance

In 1990-91, Environment Canada promoted compliance through various activities.

Environment Canada's managers and scientific experts gave presentations to industry associations, national conferences, students and other groups to broaden awareness of environmental issues and regulations.

The Department also met with Agriculture Canada, the Department of National Defence, the Department of the Solicitor General and CN Rail to discuss such issues as the application of environmental audits, atmospheric emissions from federal government heating plants and decontamination of PCB-contaminated mineral oil. While Environment Canada does not regulate these specific areas through CEPA Part IV (the section targeting federal activities), the Department wants to explore ways of working with other federal departments and agencies to address problems.

Voluntary compliance can often be achieved through widespread public consultation on regulations, a process intrinsic to CEPA. In 1990-91, for example, when Environment Canada was developing a regulation on the export and import of hazardous wastes, the Department consulted companies involved in the business, as well as concerned environmental groups. In addition, for proposed amendments to the Vinyl Chloride Release Regulations, Environment Canada consulted with several groups, including industry. To explain the amendments, the Department brought together its engineers, inspectors, provincial government representatives and those affected at a special session in Edmonton.

The National Inspection Plan

The National Inspection Plan is an annual work plan to identify the number and types of inspections to be carried out under CEPA regulations and interim orders. Staff at Environment Canada's headquarters and regional offices collaborate to produce the plan.

In 1990-91, staff planned inspections under existing CEPA regulations and interim orders. An inspection may involve visiting a plant or warehouse, witnessing a compliance test required under a regulation, reviewing records, or taking samples of substances. The frequency of inspection is sometimes determined by clauses in the relevant regulation. For example, a regulation may require the testing of emissions twice a year.

The following table shows the number of inspections carried out under each regulation and interim order for which there are regular enforcement activities. CEPA inspectors pursue warnings and directions as avidly as other enforcement activities. Three CEPA regulations, those dealing with the pesticide Mirex, polychlorinated terphenyls and polybrominated biphenyls, do not appear in the table. Past experience has shown no need to conduct inspections under these regulations because compliance with them appears to be 100 percent.

Upon evaluating the results of the National Inspection Plan at the conclusion of the 1990-91 year, Environment Canada found that all regulations did not require the same level of compliance verification, and decided on a target-oriented approach. Therefore, beginning in 1991-92, Environment Canada will determine where the major compliance problems exist, and will strengthen enforcement in those areas.

The National Training Program

The National Training Program, set by the National Inspection Plan, gives program managers, inspectors and investigators a better understanding of their roles and powers. The program ranges from basic law enforcement techniques to very specialized regulation-specific training. In addition the department developed and delivered a general orientation training module and an investigators' course.

Enforcement Activities 1990-91

Regulatory Instrument	Inspections	Investigations	Warnings	Directions	Prosecutions	Convictions
Storage of PCB Wastes Interim Order	392	7	50		2	1
PCB Regulations Interim Order	624	26	7	2	3	2
PCB Treatment and Destruction Regulations	81	2				
Release of Lead from Secondary Lead Smelters Interim Order	58	2	2	2		
Vinyl Chloride Release Regulations	4	2	1			
Asbestos Mines and Mills Release Regs.	28					
Chlor-Alkali Mercury Release Regulations	11	3	1			
Chlorofluorocarbon Regulations	38	2				
Gasoline Regulations	1,141	2	4			
Contaminated Fuel Interim Order	116					
Fuels Information Regulations No. 1	4	4	1			
Ozone Depleting Substances Regs. No. 1	1	1				
Ozone Depleting Substances Regs. No. 3	9	1	1	1	1	
Ocean Dumping Regulations	150	8	11		2	3
Phosphorus Concentration Regs.	137	1				
Total	2,794	61	78	5	8	6

Prosecutions in 1990-91

Company	Date	Status
West Isle Forest Products Ltd. Victoria, British Columbia [same prosecution listed in last year's annual report]	April 11, 1990	Fined $20,000 total (four counts) for contravening the Storage of PCB Wastes Interim Order at Esquimalt Indian Reserve in December 1988
Beaver Marine Construction Group Bedford, Nova Scotia [same prosecution listed in last year's annual report]	April 26, 1990 June 4, 1990	Charged for violating section 67(1) of CEPA (ocean dumping) at Oak Point, New Brunswick Fined $2,000
Consolidated Bathurst Belgo Division Shawinigan, Quebec	August 10, 1990 September 7, 1990	Found guilty for violating sections 35(1) and 36(1) of CEPA in April 1989 (release of toxic substances) Company launched an Appeal
Raymond Marks and RMS Ross Chilliwack, British Columbia	September 26, 1990	In December 1989, charges were laid against the company and the president for contravening the Export of PCB Waste Regulations in May 1989 Raymond Marks was fined $5,000 and the charge against RMS Ross was withdrawn
Crown Zellerbach Vancouver, British Columbia	October 15, 1990	For offences at Beaver Cove and Johnston Strait, north of Vancouver Island Two charges had been laid in February 1981, the company launched several appeals, and was convicted in May 1989 Fined $8,000 total for violating the *Ocean Dumping Control Act* in August, 1980 (Act has been "rolled over" to CEPA)
Alcan Smelter and Chemical (SECAL) Montreal, Quebec	December 17, 1990	Charged for contravening CEPA, section 36(1) and section 6(1) (PCB Regulations) in L'Ascension de Notre Seigneur, Quebec, March 1990 Fined $30,000 in June, 1991
Bay Bulls Sea Products Ltd. Bay Bulls, Newfoundland	March 20, 1991	Charged in November 1990 for contravening section 67 of CEPA for offences in July 1989 (ocean dumping) Fined $3,000

Amendments and Repeal Part VIII

Regulations Rolled Over to CEPA

CEPA subsumes and takes over the *Environmental Contaminants Act*, the *Clean Air Act*, the *Ocean Dumping Control Act*, the nutrient provisions of the *Canada Water Act*, and section 6(2) of the *Department of the Environment Act*.

Several regulations controlling substances made under these repealed Acts have been "rolled over" to continue in force under CEPA.

Amendment to CEPA

With the creation of CEPA, the List of Toxic Substances (Schedule I) was simply transferred from the *Environmental Contaminants Act*. However, the wording of CEPA sections 33 and 34 was imprecise, and there remained a legal uncertainty as to whether new regulations could be made for substances already appearing on the schedule. This included those regulations that were to be transferred from previous Acts and rolled over into CEPA.

Consequently, an amendment to CEPA was given Royal Assent on June 29, 1989. To ensure that all existing regulations had the force of law, interim orders were made on February 20, 1989 for the nine substances included in the List of Toxic Substances (Schedule I) of CEPA, namely chlorobiphenyls, mirex, polybrominated biphenyls, CFCs, polychlorinated terphenyls, asbestos, lead, mercury, and vinyl chloride.

An Act to Amend the *Canadian Environmental Protection Act*

Her Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:

1. (I) Subsection 33 (1) of the English version of the *Canadian Environmental Protection Act* is repealed and the following substituted therefore: "33. (1) Subject to subsection (4), the Governor in Council may, if satisfied that a substance is toxic, on the recommendation of the Ministers, make an order adding the substances to the list of Toxic Substances in Schedule I." (2) Subsection 33 (2) of the said Act is repealed.

2. All that portion of subsection 34 (1) of the said Act preceding paragraph (a) thereof is repealed and the following substituted therefore: "34. (1) Subject to subsection (3), the Governor in Council may, on the recommendation of the Ministers and after the federal-provincial advisory committee is given an opportunity to provide its advice under section 6, make regulations with respect to a substance specified on the List of Toxic Substances in Schedule I, including regulations providing for, or imposing requirements respecting..."

Conclusion

This past year's activities under CEPA legislation have been instrumental in helping to meet many goals of *Canada's Green Plan.*

To support the *Green Plan* target of ultimately eliminating the discharge of persistent toxic substances into the environment, for example, Environment Canada published the Domestic Substances List and the Non-Domestic Substances List, and continued to assess the priority substances.

To substantiate the *Green Plan* emphasis on high-quality environmental science, education and information, Environment Canada published more than 20 scientific reports, including *A Report on Canada's Progress Towards a National Set of Environmental Indicators.* In essence, environmental indicators translate scientific information into succinct, understandable information.

CEPA has also provided the means for stronger regulations and enforcement policies, a need identified during the *Green Plan* public consultations. Within the past year, Environment Canada introduced seven new regulations under CEPA legislation, and actively implemented enforcement and compliance measures.

These are among the broad range of examples of how CEPA has been, and will continue to be, critical in helping the federal government meet its environmental agenda.

With every new assessment report or regulation, with every scientific development or enforcement action accomplished under CEPA, the government reaffirms its commitment to sustainable development.