



# CEPA FIVE YEAR REVIEW Atlantic Region

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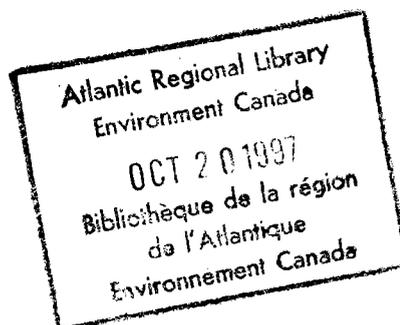
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Canada

**ATLANTIC REGION**

**CANADIAN ENVIRONMENTAL PROTECTION ACT  
(CEPA)**

**FIVE YEAR REVIEW**



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## **1.0 INTRODUCTION**

Environment Canada devotes a significant component of its resources and programs to CEPA and CEPA related activities. That is an indication of the Department's commitment to effective administration of this Act. We also believe our activities have realized some significant achievements, notably a relatively high degree of compliance.

CEPA has been in place for five years and we are now in a position to evaluate the effectiveness of its implementation in the Region. This review will attempt to do that and will focus on highlights, significant outputs and accomplishments, and linkages of our CEPA activities with other departmental programs and other agencies and their programs. It will follow CEPA as it is currently structured.

It was recognized at an early stage that the successful delivery of CEPA-related programs would require a coordinated approach. Accordingly, the Regional Management Committee (RMC) designated the Regional Toxic Chemicals Committee (RTCC) as the priority setting and coordinating focus for the implementation of CEPA in the Region. The RTCC is an integrated group composed of representatives from Environmental Protection Branch, Environmental Conservation Branch, Atmospheric Environment Branch and Health Canada.

The RTCC began its efforts in 1989 with the development of a long term implementation strategy. That strategy has been implemented through the development of detailed annual Action Plans. An Annual Report was prepared on the accomplishments of each year. Presented in those were detailed resource commitments matched against specific activities. The principle benefit from that process has been that it served to improve the communication among Environment Canada staff engaged in CEPA-related activities, thereby maximizing opportunities for cooperation and reducing redundancy. It also had the effect of forcing the recognition that there were more activities that could be directly related to a CEPA mandate, beyond the conventional command and control approach. Those included: the substantial research and monitoring efforts, the results of which are used to develop mitigative measures and changes in practices, as

well as to feed directly to further evaluation such as the Priority Substance List program; the reporting on environmental quality indicators and the extensive Regional State of the Environment (SOE) activities; the education and communication programs; as well as our region's pollution prevention activities. While it can be argued that those activities can take place without a legislated mandate; CEPA and mechanisms which were established to implement CEPA helped to focus these activities.

What follows is a description of the objectives, activities and significant results for each section of CEPA.

## **2.0 PART I - ENVIRONMENTAL QUALITY**

### **2.1 Objectives**

#### **2.1.1 Environmental Data and Research**

- Under the auspices of the Regional Toxic Chemicals Committee, RAMSCO (Research and Monitoring Sub-Committee) was formed to provide whole ecosystem-based direction and coordination of CEPA-related research and monitoring activities in the Atlantic Region. Initially being composed of members from the Canadian Wildlife Service (CWS - Chair), Environmental Protection (EP), the Inland Waters Directorate (IWD) and the Atmospheric Environment Service (AES), it was in 1994/95 expanded to include the Department of Fisheries and Oceans (DFO).
- RAMSCO strives to ensure that adequate knowledge exists to prevent and to respond to issues arising from ecosystem contamination by pollutants, in order to maintain and enhance a healthy environment.
- Reporting of pertinent information to the public takes different forms, depending on the context. Products include technical publications and reports, Regional SOE reports, fact sheets and Bulletins (reported under “Results”, below).

#### **2.1.2 Formulation of Objectives, Guidelines and Codes of Practice**

- The 1992-93 CEPA Action Plan calls for the formation of an Environmental Quality Objectives and Guidelines (EQOG) Subcommittee of the Regional Toxic Chemicals Committee to undertake EQOG development and other actions within the Region, and coordinate those activities with HQ.

## 2.2 ACTIVITIES

### 2.2.1 Environmental Data and Research

- RAMSCO's first priority was to build a comprehensive list of all activities within Environment Canada that pertained to fulfilment of our obligations to implement CEPA. That list became its action plan.
- RAMSCO's strategy was to reach out to federal and provincial departments and non-government institutions such as universities to determine what activities were being carried out in the Region which were related to CEPA substances. This primarily took the form of a formal survey but also included personal contacts by RAMSCO members. The main purpose was to provide a vehicle for information exchange, but also to serve as a coordinating body for regional workshops and joint projects.
- Central to coordination of information was RAMSCO's promotion of standardized database development with geo-coding. The result is the regional CEPA database, now encompassed by a broader environmental database, ENVIRODAT. A large body of information was recorded electronically from hard copy files throughout Environment Canada.
- Although CEPA identified 44 substances of national priority, RAMSCO, using joint resources, conducted a study to assemble information on sources and release rates of priority substances and other pollutants in the Region. This allowed a setting of Regional priorities within the national context of CEPA.
- Special reviews were conducted to amalgamate regional data on high priority substances and to recommend courses of action. Those substances were PAHs and heavy metals.

- A major joint DFO/EC ecosystem study was initiated. It attempts to determine the movement of toxics from their origins and through the ecosystems of several Atlantic Region estuaries, particularly at designated Atlantic Coastal Action Plan (ACAP) sites. Environment compartments being investigated include water, sediments, invertebrate fauna, shellfish and fish, aquatic invertebrate-feeding terrestrial birds and high trophic level fish-eating birds.
  
- Activities, some of which originated before creation of RAMSCO, but are now conducted within a coordinated framework, include:
  - LRTAP monitoring;
  - NAPS (air quality) monitoring in major cities;
  - Mussel Watch (contaminants in shellfish);
  - Monitoring of harbours and estuaries for contaminants;
  - Ocean dumping monitoring;
  - Monitoring of contaminants at dumpsites;
  - Assessment of effects mining activities, including acid drainage, have on the environment;
  - Industry-specific investigations (eg pulp mills);
  - Broad range of water quality monitoring for toxic chemicals in rivers, streams, drinking water and sediments;
  - Conduct studies and report on contaminants in forage fish;
  - Broad range of scoping exercises to determine likelihood of problems;
  - Remedial action plans for contaminated sites (eg Pictou, prior to ACAP);
  - Surveys of contaminants in wildlife relative to human health;
  - Monitoring of fate and effects of textile industry effluent;
  - Investigations of acid fog effects on birds;
  - Studies of effects of urban lead on waterfowl;
  - Long term monitoring of environmental contaminants in seabirds;
  - Determination of levels of contaminants in eagles and ospreys, high trophic level birds;

- Long term study of the uptake of contaminants and habitat use by birds at designated ACAP sites;
- Determine occurrence of contaminants in Halifax harbour;
- Coordination of pulp mill Environmental Effects Monitoring;
- Preparation and publication of contaminant fact sheets for the public.

### 2.2.2 State of the Environment Reporting

- The recently released State of the Environment in the Atlantic Region report presented information on toxic substances and provided linkages between environmental and human health, and sustainability.
- Within DOE Atlantic Region various products have been generated that, for example, have reported toxic chemical data. Examples would be SOE fact sheets on organics in precipitation and drinking water quality, SOE fact sheets and bulletins on contaminants in marine wildlife, or interpretive reports pertaining to specific priority substances that were used as part of the assessment phase.

### 2.2.3 Formulation of Objectives, Guidelines and Codes of Practice

- A subcommittee was established to develop and report to the RTCC on environmental quality objectives, guidelines and codes of practice. Direct links were made with HQ efforts to develop same.
- In conjunction with Environmental Sciences and Evaluation Directorate, Ottawa, Sediment Quality Guidelines for substances controlled by the Ocean Dumping provisions of CEPA were prepared. These will replace the existing regulated limits.

- In conjunction with Environmental Sciences and Evaluation Directorate, Ottawa, Marine Water Quality Guidelines in cooperation with the Canadian Council of Ministers of the Environment (CCME) were prepared.

## **2.3 Results**

### **2.3.1 Reports/Papers published**

Ernst, W.R., P. Hennigar, K. Doe, S. Wade and G. Julien. 1994. Characterization of the chemical constituents and toxicity to aquatic organisms of a municipal landfill leachate. *Water Poll. Res. J. Canada*. 29(1):89-101.

Garron, C.A. 1992. Disinfectant chemical use in domestic water and wastewater treatment in the Atlantic Region in 1990. Surveillance Report EPS-5-AR-92-2. Environment Canada, Conservation and Protection, Environmental Protection, Atlantic Region. 19 pp.

Kieley, K. 1994. An assessment of the use of dust suppressant chemicals in the Atlantic Region. Surveillance Report EPS-5-AR-94-1. Environment Canada, Environmental Protection Branch, Atlantic Region. 20 pp.

Kieley, K. M. and H. J. O'Neill. Data review and analysis of priority substances list metals in the Atlantic Region. Environment Canada Atlantic Region Technical Report Series No. 94-02.

Noble, D.G. and S.P. Burns. 1990. Contaminants in Canadian seabirds. SOE Fact Sheet No. 90-1.

O'Neill, H.J. and K.M. Kieley. Polynuclear Aromatic Hydrocarbons: Atlantic Region data summary and review. Conservation and Protection Atlantic Region Technical Report Series No. 92-01. 64pp.

Rutherford, L.A., K.G. Doe, S.J. Wade and P.A. Hennigar. 1994. Aquatic toxicity and environmental impact of chlorinated wastewater effluent discharges from four sewage treatment facilities in the Atlantic Region. Proceedings of the Twentieth Annual Aquatic Toxicity Workshop, October 17-21, 1993, Quebec City, Quebec. Canadian Technical Report of Fisheries and Aquatic Sciences 1989, p. 179-195.

Rutherford, L.A., P.A. Hennigar, K.G. Doe, M.L. Nicol, M.M.E. Holmes, B.C. MacDonald and W.H. Horne. 1992. Chemical characterization, aquatic toxicity and environmental impact of untreated effluent discharges from three textile mills in the Atlantic Region. Surveillance Report EPS-5-AR-93-1. Environment Canada, Conservation and Protection, Environmental Protection, Atlantic Region. 144 pp.

Shepard, A.L. and L.A. Rutherford. 1994. Lead contamination in urban wintering habitats of American Black Ducks (Anas rubripes) in Nova Scotia and Prince Edward Island. Surveillance Report EPS-5-AR-94-4. Environment Canada, Environmental Protection Branch, Atlantic Region. (in press).

SOE Bulletin No. 93-1. Toxic contaminants in the environment.

Toxic Substances in the Atlantic Region Environment. Fact sheets on Lead, PAHs, Tetrachloroethylene and Arsenic.

### 2.3.2 Reports/Papers in progress

Lead contamination at trap and skeet shooting ranges in New Brunswick and Nova Scotia.

Aquatic toxicity and environmental impact of sanitary landfill leachate discharges in the Sackville River, N.S.

Mercury and metals deposition in ombrotrophic bogs in New Brunswick, Nova Scotia and Prince Edward Island.

Polychlorinated dibenzodioxins and dibenzofurans in crude tall oil, its chemical byproducts and in commercial soaps and detergents in Canada.

## **3.0 PART II - TOXIC SUBSTANCES**

### **3.1 Objectives**

The control of toxic substances is obviously the driving force behind CEPA. The objectives of the Atlantic Region toxic substances programs are to:

- a) implement active compliance programs for all controlled substances, including necessary inventories, inspections, audits and reports;
- b) communicate with the public and regulatees on the intent and application of regulatory controls (compliance promotion);
- c) conduct studies and participate in task groups to assess the toxicity and occurrence of priority substances and other pollutants in the Atlantic Region.

### **3.2 Activities**

#### **3.2.1 Regulation Compliance**

Consists of inspections and enforcement activities for 19 CEPA regulations including: PCB Waste Storage; Chlorobiphenyls, PCB Waste Export; Secondary Lead; Vinyl Chloride; Asbestos Mines and Mills; Mercury Chlor-Alkali; Gasoline; Contaminated Fuel; Fuel Information; Ozone Depleting Substances (ODS) 1, 2, 3, 4; Export/Import Hazardous Wastes; Dioxins and Furans; Defoamer and Wood Chips; New Substances Notification; and Toxic Substances Export Notification.

#### **3.2.2 Compliance Promotion/Information**

Consists of:

- information letters and seminars concerning the management of CEPA-related substances and new CEPA regulations;

- producing and distributing "fact sheets" on regional priority chemicals.

### 3.2.3 Monitoring

Consists of:

- Compiling commercial chemicals use patterns and inventories (e.g. Ozone Depleting Substances in food processing sector, at federal facilities and in automobile industry, chlorine use in wastewater treatment, rustproofing chemicals in automobile sector, inventory of companies involved in biotechnology, use and contamination of commercial by-products from pulp mills).
- Conducting studies to determine fate/effects of regional commercial substances (e.g. textile mill effluents; municipal wastewater discharges; landfill leachates). In addition regional information is collected and provided to support Priority Substances List I activities. Regional participation is provided to PSL 2 Candidate Substance selection activities and National Pollutant Release Inventory activities.

## 3.3 **Results**

A number of significant results were achieved as a result of the toxic substances activities.

- Enforcement activities for CEPA Part II regulations from 1989/90 to 1994/95 are summarized in Table 1. For some regulations, such as the Gasoline, Contaminated Fuels and the Chlorobiphenyls Regulations, enforcement activity has declined over the past five years which is a reflection of a high compliance rate. Through a very active PCB compliance assurance and data management program, virtually 100% of the PCBs in use and storage locations have been visited and inventoried. Compliance with all PCB regulations is high (90%). Subsequent to the promulgation of the Ozone Depleting Substance Regulation #3 in 1990, there was a high level of enforcement activity due to

the national and international importance placed on control of those substances.

- On a daily basis, Atlantic Region staff provide information to the public and to our clients on toxic substances regulations under CEPA. That includes providing copies of regulations as well as publications on toxic substances controlled under CEPA (e.g. PCBs, CFCs). In addition, Atlantic Region staff regularly make presentations to diverse audiences on toxic substances controlled under CEPA, including university law programs, OGDs and the public.
  
- Highlights of compliance promotion activities conducted for Part II Regulations since 1989/90 have included:
  - production of CEPA Annual reports and bulletins which are distributed to public, ENGOs and OGDs;
  - the coordination and development of a national training package for the Contaminated Fuels Regulations;
  - an inventory of ozone depleting substances in use at federal facilities in the Region was conducted in addition to an assessment of consumption patterns and the development of a management strategy;
  - the coordination and development of a national training package for the Export and Import of Hazardous Waste Regulations;
  - an inventory of regional companies involved in biotechnology was completed in preparation for the New Substances Notification Regulations for Biotechnology Products;
  - the completion of a project to inventory and assess use patterns of ozone depleting substances in the regional food industry (retail/grocery, food processing and transportation);
  - the presentation of information on ozone depleting substances regulations to a regional workshop for refrigeration and air conditioning specialists;
  - the development and implementation of a workshop on ozone depleting substances for regional federal facilities.

Table 1. CEPA Part II - Enforcement Activities

Regulation	1989/90			1990/91			1991/92			1992/93			1993/94			1994/95																			
	Ins	Inv	War/Dir	Pro	Con	Ins	Inv	War/Dir	Pro	Con	Ins	Inv	War/Dir	Pro	Con	Ins	Inv	War/Dir	Pro	Con															
PCB Storage	41	11	6	1	60	17	40	1	16	40	5	13	36	12	11	47	3	3	1	1															
Chlorobiphenyls	161	12			48	20	2	2	10	30	10	2	1	10	3	14	1																		
PCB Waste Export													1																						
Secondary Lead					1															1															
Asbestos Mines & Mills	2				3			1												6															
Mercury Chlor-Alkali	22				8		8	2						5																					
Gasoline	350				499		75							3																					
Contaminated Fuel	32				4		4							4						1															
ODS							10	8					1	1						3	1														
ODS Products	1				29		42	1				1		52	4	5				48															
Exp.&Imp Haz. Waste																																			
Dioxins & Furans																																			
Total	609	23	6	1	0	0	652	20	19	2	0	0	189	40	19	0	0	0	130	6	16	1	1	1	108	18	19	0	0	0	120	5	3	0	1

Legend: Ins - inspections  
 Dir - directions  
 Inv - investigations  
 Pro - prosecutions  
 War - warning letters  
 Con - convictions

- The results of a study which measured the chemical components, toxicity and environmental effects of regional textile mill effluents were used to induce regional mill operators to improve processes and treatment. Those results also indicated that such effluents are probably CEPA-toxic and require a more detailed assessment. Textile mill effluents will be nominated to PSL 2 by DOE.
- A number of sectors (food processing, automobile and federal facilities) have been inventoried for Ozone-depleting Substance (ODS) use. The results of those inventories have been used to focus compliance monitoring programs and initiate management strategy developments.
- A detailed inventory of toxic substance use, production and release in regional mining activities was completed, the results of which indicated a high potential for environmental impacts and need for environmental investigation.
- Environmental occurrence of lead as a result of automobile exhaust and trap and skeet shooting was determined indicating probable threats to wildlife in proximity to high discharge areas. The virtual elimination of lead in gasoline has resulted in a diminishing problem for the use of automobiles, however, further controls on the siting/management of shotgun shooting ranges will be evaluated.
- A project to determine the aquatic toxicity, environmental effects and chemical characterization of regional chlorinated municipal wastewater effluents produced results which contributed to the PSL finding that such effluents are CEPA-toxic. The requirement for controls on such effluents were assessed through a CEPA Federal Provincial Advisory Committee.
- Several reviews of all the available regional occurrence and effects information for (a) PAH, and (b) the most important heavy metals were completed, identifying priorities for future monitoring.

- A study which measured the chemical characterization, toxicity and environmental effects of sanitary landfill leachates determined the need for and validated further treatment efforts to reduce environmental risks.
- A study to determine mercury contamination of raised peatbogs is underway and has preliminarily demonstrated long range transport mechanisms as well as local sources of contamination. This information will be important in developing control strategies.

## **4.0 PART III - NUTRIENTS**

### **4.1 Objectives**

- To ensure compliance with the Phosphorus Concentration Control Regulations limiting nutrient concentrations in laundry detergents.

### **4.2 Activities**

- Between 1989/90 and 1991/92, an average of 15 detergent samples were collected from detergent formulators and retail outlets in the Region for analyses of phosphates by the regional Environment Canada lab in Dartmouth. In an effort to economize on resources and as a result of the high compliance rate, it was agreed in 1991 that responsibility for measuring compliance with the regulation would be rotated among the Regional offices of Environment Canada. In 1992/93, Atlantic Region analyzed samples collected from various regions across Canada in support of the CEPA nutrient program. In 1994/95, Atlantic Region will collect 30 detergent samples in the Region and send them to Prairie and Northern Region for analyses.

### **4.3 Results**

- Laundry detergent samples collected in the Atlantic Region have never exceeded the 5% phosphorus pentoxide limit allowed by the regulations. Reports describing the regional program findings have been prepared and submitted annually to headquarters.

## **5.0 PART IV - FEDERAL DEPARTMENTS, AGENCIES, CROWN CORPORATIONS, WORKS, UNDERTAKINGS (LANDS)**

### **5.1 Objectives**

The objectives of the Atlantic Region Part IV programs are:

- to assist in the development of guidelines and regulations for those federal activities associated with waste handling, disposal practices, effluent and emissions;
- to liaise with federal facilities in the region so that they are aware of their responsibilities and requirements under Part IV; and
- to develop and implement compliance programs for the guidelines and regulations promulgated under Part IV.

### **5.2 Activities**

The major activities of Environment Canada Atlantic Region under Part IV are as follows:

- Implementation of guidelines and/or codes of practice at federal facilities including:
  - ensuring compliance of underground fuel storage tanks at federal facilities to applicable standards and codes by providing technical advice and assistance;
  - providing advice on other federal activities including:
    - sandblasting of structures and rail tie combustion,
    - coal stockpiling/acid mine drainage,
    - advice on heating plants,
    - shoreline disposal of toxic materials, and
    - waste treatment.

- Provision of regional input to the development of specific regulations, interim orders, guidelines, codes and other related programs including:
  - technical input to the hazardous waste management regulation;
  - technical input to the incineration of non-hazardous wastes regulation;
  - technical input to a landfill (non-hazardous waste) regulation, including landfill data for a federal activities inventory;
  - provision of technical reviews of regulations relating to industrial boilers, advice on above ground fuel storage tanks containing petroleum products, and advice on glycol guidelines;
  - development of a Waste Reduction Methods at Federal Facilities Manual.
  
- Implementation of communication/technology transfer programs to deliver information to federal departments and agencies on the activities and requirements of Part IV including:
  - workshop coordination, preparation and distribution of information bulletins, and coordination of stewardship programs.
  
- Implementation of an active enforcement and compliance program for all regulatory controls under Part IV including:
  - ensuring compliance with the Mobile PCB Treatment and Destruction Regulations;
  - promoting the use of existing guidelines at federal facilities including inspections and conducting reviews of specifications and plans;
  - ensuring compliance with guidelines for incineration and heating plants, waste treatment plants, and glycol use/disposal at regional airports.
  
- Development and maintenance of an inventory of federal facilities and agencies subject to Part IV.

### 5.3 Results

Atlantic Region has had several successes with Part IV since the inception of CEPA. The following provides highlights:

- The destruction of PCB contaminated materials at Goose Bay was completed successfully. Inspection and compliance activities under the Mobile PCB Treatment and Destruction Regulations were conducted throughout the project;
- Substantial progress was made in siting a mobile PCB destruction facility for other PCBs in the Region. Through the workings of a Management and a Regulatory Committee, all federal facilities in the region were screened as candidate sites and an Initial Environmental Evaluation (IEE) was produced on two prospective candidate sites. An Independent Review Committee approved the selected sites on a technical basis, however, public opinion was against siting at either location. The project is moving forward by attempting to form a industry/government partnership and locate a willing host community;
- Environmental protection programs at CFB Halifax were upgraded in accordance with an environmental baseline study. Environment Canada provided assistance throughout by:
  - assisting with the placement of 5 environmental staff;
  - participating in development of Halifax Environmental Action Plan (HEAP) to address the deficiencies identified in the baseline study;
  - playing key roles in several environmental awareness seminars (Green Days) for senior Base and Command personnel;
- Advice and assistance relating to fuel storage tanks (above and underground), hazardous waste (disposal, handling, transportation and storage), decommissioning of federal facilities and sewage treatment plants was provided on over five hundred occasions each year, resulting in enhanced environmental protection on federal properties;

- Ten to fifteen wastewater treatment plants were inspected each year to promote the use of the Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments;
- Workshops and seminars with other government departments were provided to promote environmental awareness. This included a seminar on environmental auditing. Assistance was also provided to PWGSC on several occasions in delivering an environmental responsibilities and liabilities workshops for staff;
- A technical committee on environmental issues is in place as per agreement between DIAND, EC, NHW. Numerous concerns are discussed in this forum and handled in a coordinated and cooperative manner. DIAND has completed an inventory of environmental issues on reserves and is moving to address priorities. Three environmental training sessions are planned with all Bands in the Region. EC also participated in an environmental awareness seminar with all senior DIAND regional staff;
- Assistance and technical support was provided to Canadian Coast Guard and Ports Canada in several large infill and shoreline toxic waste disposal activities;
- A number of activities were also implemented in the Atlantic Region under the *Code of Environmental Stewardship*:
  - A survey of federal facilities in Nova Scotia (efforts are underway to initiate a similar survey in New Brunswick) has been initiated to: determine the current status and needs of federal facilities with respect to stewardship objectives; assess requirements in preparation for workshops to be held in the coming year; and identify training programs towards the development of a regional federal training database;
  - An assessment of procurement practices at federal facilities (Department of

National Defense, Indian and Northern Affairs Canada, and Transport Canada) is underway with respect to identifying opportunities for waste minimization;

- A review of federal building leasing standards is planned with Public Works and Government Services Canada to promote the incorporation of improved environmental features;
  - As a primary vehicle for the implementation of stewardship principles, Environment Canada is leading a "Greening of Government" working group under the Nova Scotia Federal Council Environment Sub-committee. Efforts are underway for a similar initiative in New Brunswick. Support is being provided from Public Works and Government Services Canada, the Department of National Defense, Indian and Northern Affairs Canada, and Transport Canada;
  - A series of presentations is being provided to federal departments to ensure a high level of awareness of stewardship initiatives.
- The Mobile PCB Treatment and Destruction Regulation is the only regulation in Part IV. As mentioned above, inspection and compliance activities were conducted throughout the Goose Bay destruction program. That consisted of ninety-three inspections conducted in 1990/91, with two warning letters issued, and thirty-six inspections conducted in 1989/90, with one investigation conducted.

## **6.0 CEPA PART V - INTERNATIONAL AIR POLLUTION**

### **6.1 Objectives**

- In Atlantic Canada, air issue programs for domestic and international activities are generally delivered under Part 1- Environmental Quality Objectives, Guidelines and Codes of Practice and Part II - Toxic Substances of CEPA. Bilateral agreements with the provinces are developed under the authority of the Department of Environment Act (Article 7) and international agreements under legislation of the Department of Foreign Affairs.
- CEPA Part V - International Air Pollution provides for the development of emissions regulations for a source or sources of a particular class or classes in Canada, which create air pollution in another country or which violates an international agreement. However, action under Part V is conditional on the provincial governments failing to take action and the affected country must provide the same rights of protection to Canada. To date, there have been no regulations developed under Part V.
- The Atlantic Region has approached Part V as a mandate to dedicate resources to interprovincial and international air pollution related to the negotiation and monitoring of federal -provincial air pollution agreements and as follow-up on Canada's obligations under the Canada/United States Air Quality Agreement.

### **6.2 Activities**

- Resources have been devoted to the negotiation and monitoring of the Federal-Provincial Acid Rain Reduction Agreements (ie. Prince Edward Island, New Brunswick, Nova Scotia and Newfoundland), possible bilateral agreements under the NO<sub>x</sub>/VOC Management Plan and the delivery of Canada's commitment under Canada/United States

## Air Quality Agreement.

### 6.3 Results

- The negotiation and signing of renewed Canada-Provincial Sulphur Dioxide Reduction Agreements with all four provinces was completed resulting in further sulphur dioxide reductions and extending the agreements until the year 2000.
- The implementation of an international regional (Northern New England and Atlantic Canada) committee to address commitments under the Canada/United States Air Quality Agreement .

## **7.0 CEPA PART VI - OCEAN DUMPING**

### **7.1 Objectives**

- Maintain and enforce the ocean dumping permit system to reflect Canada's commitments under the London Convention and any changes to the Act, regulations, guidelines, policy or interpretive guides.
- Support assessment, monitoring and research related to environmental aspects of ocean dumping activities in the region.
- Support Marine Environmental Quality initiatives and Marine Plastics Program as they relate to CEPA Part VI.

### **7.2 Activities/Outputs**

- Under the Ocean Dumping Control Action Plan, the Ocean Dumping Regulations were amended in September 1993 to include requirements for additional information concerning project justification, evaluation of alternatives and waste audits. In addition, a new application form and the \$2,500 fee structure were introduced to replace the old forms and fee prescribed under the old Act. The second phase of the regulatory revision, which is presently being conducted, consists of new environmental assessment procedures and standards to better account for effects on the marine environment. The proposed approach will follow the Waste Assessment Framework (WAF) developed under the London Convention.
- Disposal site monitoring guidelines are being developed and field tested with a projected 1996/97 completion date. The main purpose of monitoring is to examine the environmental acceptability of disposal at sea and to provide feedback to the permit

assessment process. Environment Canada is also exploring cost-recovery options for disposal site monitoring such as requiring a permit fee in addition to the application fee.

- Disposal site monitoring programs are conducted at one or two sites every year. These programs are designed to provide feedback to confirm the effectiveness of the mitigative measures incorporated into permits, to study the environmental impacts of ocean disposals and to develop techniques and methods suitable for disposal site monitoring. The results of these monitoring programs are published in the Regional Ocean Dumping Reports, scientific journals, workshop proceedings and presented in international conferences and workshops.
- Staff are actively participating in the development of a National Guidance for Ocean Disposal Site Monitoring. Field work was carried out in the last two years in this region to assist HQ for the preparation of the guidance document.
- Each year, comprehensive environmental impact assessments and quality control assurance are conducted on up to fifteen ocean disposal projects to ensure the supporting information and data are adequate, accurate and scientifically valid.
- An annual average of five underwater surveys are conducted by the Ocean Disposal Unit using an underwater remote control vehicle to assist other program activities within Environment Canada and other government agencies (e.g. DFO). These surveys have included the assessment of aquacultural sites in freshwater lakes and the study of pollution impacts in coastal waters.
- A Regional Ocean Dumping Advisory Committee (RODAC) is chaired by Environment Canada to review and approve ocean disposal research proposals. The Regional Ocean Disposal Research Priority is updated every year to ensure that the objectives of research activities conducted for the Ocean Disposal Program meet regional needs.

- The results of five ocean disposal monitoring and research projects were published in the Ocean Dumping Report Series.
- As part of an ongoing exchange of information between the regional office and U.S. agencies (e.g. U.S. Army Corps of Engineers) a Canada-U.S. Workshop on Ocean Disposal in the Gulf of Maine was organized in 1993. Workshops will be conducted every two years to create a forum for government officers of each country to exchange information, monitoring and research data related to ocean disposal.
- Each year, the regional office prepares a summary of disposal site surveys in support of the preparation of a national report for submission to the London Convention.
- Staff coordinate input for the national and regional marine plastic programs and participate in the Gulf of Maine Committee on Marine Litter.
- Compliance assurance for the Ocean Dumping Control Regulation is as follows:

Enforcement Activities conducted under CEPA Part VI: (1989 - 1994):

YEAR	INSPECTIONS	INVESTIGATIONS	WARNING LETTERS	CONVICTIONS
89/90	45	10	5	2
90/91	49	6	8	2
91/92	34	10	6	-
92/93	27	3	1	1
93/94	55	10	5	4
94/95	40	3	-	-

- The regional office is responsible for screening of each permit application, coordination of RODAC review and public input.
  - Annual Permit Reviews      130
  - Approved Applications      120
  - Amendments                      10
  
- A guide outlining permit application and chemical testing requirements for permit application was developed and is updated yearly to assist permit proponents.
  
- In 1992/93 environmental guidelines were developed to regulate the disposal of vessels for the creation of artificial reefs at sea. In addition, DOE staff are presently developing guidelines to control the release of wastes into the marine environment by surface preparation activities such as sand blasting.
  
- Staff are presently conducting sediment bioassays and bioaccumulation tests to assess the effectiveness and efficiency of these assessment tools for the development of criteria to be used in the permit approval process.
  
- Staff are presently coordinating the development and implementation of the Rapidly Rendered Harmless Guidance document. This document will be used as a decision making tool to determine whether substances to be dumped will be rapidly rendered harmless to organisms in the marine environment. The region is also providing input to the development of sampling and QA/QC protocols.
  
- A regional ocean disposal electronic database was established seven years ago to assist in the management of the ocean disposal permit application system and to store the sediment chemical information for use in enforcement, monitoring and research. This database is updated and maintained daily.

- Permit and/or chemical data summary reports are routinely generated from the database in response to requests from the general public, consultant companies, universities, federal and provincial government agencies. An annual permit summary report is developed each year for the preparation of a submission to the London Convention Office. Information and data summary reports generated from the database are also used for the preparation of the Environment Canada annual report .
- A designated disposal site for marine vessels, recommended by the Regional Ocean Disposal Advisory Committee (RODAC) and adopted by Environment Canada Atlantic Region, has resulted in a lowering of conflicts amongst users of the sea. Disposal of vessels and other large structures, particularly in the Bay of Fundy, had in the past lead to objections from commercial fishing interests. Use of the designated disposal site, which has been accepted by industry, has eliminated conflicts and simplified permit application review.

## **8.0 PART VII - GENERAL (INCLUDING ENFORCEMENT)**

### **8.1 Objectives**

- The purpose of this PART of CEPA is to provide much of the administrative structure for delivery of CEPA. It includes general regulation-making authorities, structure and conduct of Boards of Review, designation and authorities of inspectors and investigators, offences and penalties, and other remedies.

### **8.2 Activities**

- The regional inspection plan, prepared each year after consultation with provinces, identifies inspection and enforcement strategies for the regulations under CEPA and the Fisheries Act which are enforced in the Region. Strategies are developed for 19 CEPA regulations. Inspections are usually conducted by individual inspectors who travel throughout the region visiting sites and facilities covered under the regulation for which they have responsibility. A report of each inspection is filed in company-specific files.

### **8.3 Taking Enforcement Action**

- When inspectors discover violations, or when reports are received from OGD's or the public alleging violations of CEPA regulations, the information is turned over to the investigators in the Enforcement Section with a recommendation for enforcement action if appropriate. If approved by the Regional Director, an investigation is initiated. Once the investigation is completed, the file is again referred to the RD for approval of enforcement action if the results of the investigation warrant. All decisions are made by the RD in consultation with the Office of Enforcement in Hull.

## 8.4 Results

- The true output of an effective environmental enforcement program is improved environmental protection through compliance with the law. Compliance is achieved through general and specific deterrence. Unfortunately, the compliance rate of all regulations is not easy to determine objectively. This issue is being addressed by the Office of Enforcement. Results will in some cases not be absolute rates, but may include an assessment of trends.
  
- Since passage of CEPA in 1988, the Atlantic Region has conducted 2197 inspections and 117 investigations. These resulted in 109 warning letters, 36 of which were issued to other federal government departments, plus 13 prosecutions resulting in 9 convictions, three charges were withdrawn during negotiations, and there was one acquittal. In addition, 5 Inspector's Directions were issued.
  
- Despite the difficulty in establishing objective measures of compliance, it is possible to identify, through subjective observation, situations where protection of the environment has been improved through appropriate use of enforcement action. The following are just three examples of situations which are considered to be success stories in the Atlantic Region:
  - Herring Dumping - In the years leading up to the passage of CEPA, a large fishery had developed in southwestern Nova Scotia involving the harvesting of pre-spawning herring to obtain roe (eggs). This fishery resulted in the generation of large quantities of waste fish for which secondary uses were very limited. The Ocean Dumping program was responsible for identifying offshore dumpsites for this waste to prevent its unlawful disposal in quarries, ditches and landfills.

Although ocean dumping permits were issued for a site which all parties agreed was environmentally acceptable, a number of operators were suspected of dumping at points well short of the dumpsite in areas used by lobster and herring fishermen.

This dumping resulted in numerous complaints. An enforcement strategy was developed and implemented resulting in the prosecution of two operators. Environment Canada's unambiguous assertion that they were prepared to enforce their permits resulted in a massive investment by the fishing industry in processing capacity. Consequently, within three years, the amount of waste herring being ocean dumped diminished from 40,000 tonnes per year to 1000 tonnes per year. Ocean dumping is now only considered as a last resort, and herring carcasses which had previously been discarded are now being processed into food and fishmeal.

- Import and Sale of Ozone-Depleting Substances - Compliance promotion activities have been highly successful at bringing most Canadian companies into compliance with Ozone-Depleting Substances Regulations. Nevertheless reports of some companies continuing to sell old stock and to illegally import less expensive product from the United States persisted. Execution of a comprehensive inspection plan of all known importers and distributors followed by Warning Letters where appropriate has resulted in very high compliance industry-wide. One well-publicised prosecution of an illegal importer of bulk chlorofluorocarbon in 1992 resulted in a cessation of this activity region-wide.

- Federal-Provincial Enforcement Partnerships - The limited size of the environmental investigations and enforcement units in the Maritime Provinces has been recognized by all parties as a challenge in the conduct of complex investigations. Further, not all jurisdictions have technical expertise in all necessary fields. As a consequence, the

Atlantic Region has developed close working relationships with provincial enforcement units which extend from shared training and intelligence to joint investigations and provision of expert witnesses. These relationships have proven fruitful and are forming the basis for partnerships being developed with the United States Environmental Protection Agency.

## CEPA PROSECUTIONS AND CONVICTIONS

**Atlantic Region August/88 to September/94**

### **Ocean Dumping**

Ocean Pride - 2 counts/ 1 dropped	guilty plea	\$3,000
Daley Brothers - 1 count	convicted	\$1,500
Ralph Dobbin - 1 count	guilty plea	\$ 500
Beaver Marine - 1 count	guilty plea	\$2,000
Bay Bulls - 1 count	guilty plea	\$3,000
Cheticamp Packers - 1 count	guilty plea	\$1,500 (\$750 ea)
Harry Newman - 1 count	conviction	\$ 500
Richard Thibideau - 1 count	acquitted	
Wilfred Deveau - 1 count	guilty plea	\$ 500

<b>Summary</b>	11 charges laid against 9 individuals/companies
7 guilty pleas	
2 convicted	Fines ranged from \$500 to \$3,000
1 withdrawn	
1 acquitted	

**Storage of PCB Material**

H.W. MacLauchlan - 12 counts charges withdrawn  
Miramichi Pulp & Paper - 1 count guilty plea \$100 \$16,500 in court order

**Summary** 13 charges against 1 company and 1 individual  
1 guilty plea fine was \$100 but company paid \$16,500 through court order  
12 withdrawn

**Release of Chlorobiphenyl Regulations**

Miramichi Pulp & Paper - 1 count withdrawn in plea bargain

**Ozone Depleting Regulation #1**

Moosehead Brewers Ltd. - 2 counts guilty plea absolute discharge

**Environmental Contaminants**

Consolidated Rambler Mines Ltd. - 1 count charges dismissed appeal rejected

**Summation**

28 charges initiated against 5 individuals and 8 companies under five regulations  
9 guilty pleas  
2 convictions fines ranged from \$100 to \$3,000  
14 withdrawn court order \$16,500  
1 acquitted  
1 absolute discharge  
1 charges dismissed

## 9.0 RESOURCES

- Environment Canada in the Atlantic Region, which has about 466 full time employees, is organized into three operational units: Environmental Conservation Branch (ECB) (92 FTE); Environmental Protection Branch (EPB)(92 FTE); and Atmospheric Environment Branch (AEB)(202 FTE). Policy and direction is provided by a Corporate Affairs (24 FTE) and all operation branch activity is supported by Systems and Informatics (24 FTE); Human Resources (11FTE) and Management Services (29 FTE).
- Approximately 4% of the \$15.6 million O&M budget for the Region is dedicated to CEPA activities and CEPA-related activities. Approximately 5% of the regional staff resources are dedicated to supporting CEPA. Most of those resources are in the Environmental Protection Branch (80% of CEPA personnel and 84% of CEPA O&M), since it is that Branch which has responsibility for ensuring compliance with regulations and monitoring the effectiveness of those regulations, coordinates the federal facilities programs and develop guidelines/codes of practice. EPB dedicates approximately 20% of its staff resources and 10% of its O&M resources to CEPA. Environmental Conservation Branch plays a role in environmental research and monitoring, state of the environment reporting and develops guidelines.
- The resources dedicated to CEPA activities according to CEPA sector are provided below. The figures presented represent the mean for the four years encompassing 1990/91 to 1993/94. While resources allocated to individual CEPA sectors have fluctuated somewhat, the total level of resources dedicated to CEPA activities has remained relatively constant since the regional program was implemented in 1989.

**APPROXIMATE CEPA RESOURCES BY SECTION**

	<b>PY</b>	<b>O&amp;M (\$K)</b>
<b>PART I<sup>1</sup></b>	10.0	300.0
<b>PART II</b>	4.3	80.0
<b>PART III</b>	0.1	0.8
<b>PART IV</b>	4.0	55.0
<b>PART V</b>	1.0	9.0
<b>PART VI<sup>2</sup></b>	3.0	139.0
<b>PART VII</b>	1.5	30.0
<b>TOTAL</b>	<b>23.9</b>	<b>613.8</b>

1. PY rose from 7 PY in year 1 to 12 PY in year 4. O&M rose from 200K in year 1 to 450K in year 4.
2. O&M increased substantially from 20K in 1989 to 139K in 1994.