

National Environmental Emergencies Contingency Plan

Environment Canada
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LETTER OF PROMULGATION

Pursuant to the Emergency Preparedness Act 1988, federal ministers have a statutory responsibility to ensure that each department, agency or Crown corporation has an emergency preparedness plan to deal with civil emergencies related to their area of accountability. In the case of Environment Canada, the Minister is primarily accountable for developing and maintaining civil emergency plans covering:

- i) the identification, assessment and mitigation of environmental hazards and their associated risks; and
- ii) provision of observations, forecasts and timely warnings with respect to weather, ice, sea-state and other physical phenomena.

The National Environmental Emergencies Contingency Plan (the National Plan) is a key element in Environment Canada's overall national emergency preparedness program with respect to environmental hazards.

Through legislation such as the Canadian Environmental Protection Act, the Fisheries Act, and the Migratory Birds Convention Act, and subject to various interagency agreements, Environment Canada has the mandate and responsibility to preserve and enhance the quality of the environment for the benefit of present and future generations of Canadians. This responsibility includes being prepared to respond to environmental emergencies.

The National Plan defines the scope and framework within which Environment Canada operates to ensure appropriate response to any environmental hazard or emergency. For the purpose of this plan, an environmental emergency is defined as a sudden or unexpected incident involving a release of a hazardous substance (or the likelihood of such a release into the natural environment) which may result in an immediate or long-term harmful effect on the environment, or constitute a danger to human life or health. The Plan also deals with Environment Canada's role in the event of natural hazards (flood, earthquake, extreme weather event, etc.) which may trigger environmental emergencies. The department's role is identified as either the lead or a support agency for the various types of environmental emergencies. The plan also describes

the emergency reporting network, and provides procedural guidelines for environmental emergencies staff. The National Plan has been prepared in consultation with other government departments which play a key role in responding to environmental emergencies.

The custodian for the overall coordination of the National Plan is the Director, Environmental Emergencies Branch, National Programs Directorate, Hull, Quebec.



Len Good
Deputy Minister
Department of the Environment

Date Sept 16/99

AMENDMENTS AND REVISIONS

The Director, Environmental Emergencies Branch is the custodian of the *National Environmental Emergencies Contingency Plan*. Amendments to the National Plan are the responsibility of the Environmental Emergencies Branch, National Programs Directorate, Environmental Protection Service, and will be issued on an as-required basis.

Requests for changes or modifications to the National Plan should be forwarded to:

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FOREWORD

The purpose of Environment Canada's *National Environmental Emergencies Contingency Plan* (the National Plan) is to describe the policy framework of the department's operational roles and responsibilities in a broad range of environmental emergencies and natural hazards which may cause environmental emergencies. The Plan also describes the emergency reporting network and provides procedural guidelines for environmental emergencies staff.

The National Plan covers those environmental emergencies and natural hazards which arise as sudden, unexpected events. It defines the scope and framework within which Environment Canada operates to ensure appropriate response to any environmental hazard or emergency. For the purpose of this plan, environmental emergency is defined as a sudden or unexpected incident involving a release of a hazardous substance (or the likelihood of such a release into the natural environment) which may result in an immediate or long-term harmful effect on the environment, or constitute a danger to human life or health. The plan also deals with the departmental role in natural hazards (flood, earthquake, extreme weather event, etc.) which may trigger environmental emergencies.

The National Plan identifies Environment Canada's role as either the lead or a support agency during environmental emergencies. In practice, in the majority of incidents, the department's role is to provide support, including technical and scientific advice and monitoring, weather hazard forecasts, advisories, alerts and warnings.

The National Plan outlines Environment Canada's role in coordinating the provision of environmental input for environmental emergencies. This function is exercised at the national level through the Federal Committee for Environmental Emergencies (FCEE). The FCEE is co-chaired with the Canadian Coast Guard and includes members from all key federal departments. At the regional level, this function is exercised primarily through the Regional Environmental Emergencies Teams (REETs) which have representation from all levels of government, industry, and non-government organizations.

The National Plan is not intended to be a stand-alone document; it is meant to be used in association with other resource documents. Selected arrangements and agreements with other agencies are highlighted in Appendix A, resource documents are listed in Appendix B and general instructions and safety procedures for emergency response teams comprise Appendix C. Appendix D contains a list of Canada-United States Joint Regional Plans, and an acronyms list is provided in Appendix E.

The organization and operational procedures for emergencies in the regions may be outlined in regional contingency plans.

The National Plan is a living document that will be revised to reflect new developments. It will be subject to continual scrutiny in order to improve its usefulness.

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PLAN TERMINOLOGY

The terminology employed in the National Plan is intended to be consistent with the statutes, regulations and guidelines which provide jurisdictional support for Environment Canada's emergency responsibilities.

Action Plan: The incident-specific plan describing the department's response to an incident. It is drawn up during the early phase of an emergency response, and amended as necessary thereafter. The action plan is developed in a manner that complements the organizational structure of the lead agency (for example, the incident command system (ICS) of the Canadian Coast Guard).

Countermeasures: Any measures, whether physical or chemical, which are implemented to reduce the impact and the effect of an emergency incident on public health and safety, the environment, and property.

Environmental Emergency Team: The Environment Canada body which implements (in association with other agencies) the environmental emergencies procedures laid out in this plan.

Environment: The atmosphere; land; marine, surface and ground waters; including the natural resources therein, and all other components of the ecosystem.

Environmental Emergency: Any uncontrolled, unplanned accident or unlawful release of a substance into the environment, or likelihood of such a release into the environment, that:

- a) has or may have an immediate or long-term harmful effect on the environment;
- b) constitutes or may constitute a danger to the environment on which human life depends; or
- c) constitutes or may constitute a danger in Canada to human life or health.

(Note that this plan does not cover response to radiological releases, but does briefly describe the support services Environment Canada would provide during such an emergency.)

Federal Committee for Environmental Emergencies (FCEE): The federal coordinating body responsible for providing interdepartmental policy setting, international program involvement, integration of interagency arrangements, mobilization of government-wide assets, and the resolution of governmental problems related to environmental emergencies.

Federal Facility: Refers to federal lands, works or undertakings as described in Part IV of the *Canadian Environmental Protection Act*. The facilities of interest in this category include military bases, national parks, large laboratories, research facilities, airports, reserves, ports, marine vessels, and all other holdings managed by the federal government.

Federal Monitoring Officer: The federal government employee who has overall responsibility for monitoring a polluter-managed response to a pollution incident.

Fishery Resources: This term includes fish and fish habitat as defined in the *Fisheries Act*. Fish are defined as all life stages of fish, shellfish, crustaceans, marine animals (including marine mammals) and plants. Fish habitat is defined as those parts of the environment on which fish directly or indirectly depend in order to carry out their life processes.

Hazardous Substance: Any material regulated as a “dangerous chemical”, a “noxious liquid substance”, a “dangerous bulk material”, or a “dangerous good” under *Canada Shipping Act* regulations, or *Transportation of Dangerous Goods Act*. This term may also be interpreted to include other goods of a dangerous nature.

Lead Agency: The organization that is responsible for organizing and commanding the response to an environmental emergency. Any federal, provincial, territorial or local government department may be a lead agency. The designation of the lead agency may be based on legislation, interagency agreement, Cabinet decision and/or custom or precedent. The lead agency’s primary roles are to monitor the polluter’s actions and ensure these actions are reasonable under the circumstances; to be point of contact between the support agencies and the polluter; and to appoint an on-scene commander (OSC) if the polluter is unable or unwilling to undertake a response to implement all remedial measures necessary. The lead agency will subsequently attempt to recover the clean-up costs from the polluter. The ability to recover such costs will be directly related to the statutory authority of the lead agency.

Migratory Birds: This term specifically refers to those migratory game birds, migratory insectivorous birds, and other migratory non-game birds identified in the *Migratory Birds Convention Act*.

Mystery Spill: A spill of a pollutant from an unidentified source in waters of Canadian interest.

Natural Hazard: An event that is caused by a real natural phenomenon resulting in an imminent fire, flood, storm, earthquake, or other hazard(s) which may result in danger to life, damage to property or the environment, damage to resources, social disruption, or a breakdown in the flow of essential goods or services.

Natural Resources Damage Assessment: The process of documenting, assessing, and rehabilitating damages for injury to, destruction of, loss of, or loss of use of natural resources, including the reasonable costs of assessing the damage.

Natural Resources Management Agency: Any agency responsible for managing natural resources (including land, fish and fish habitat, marine mammals, migratory birds, other biota, air, water, ground water, drinking water, or any other such resources) managed by or held in trust by Canada, any province, territory, local government, or First Nation.

Oil Handling Facility: As defined in Part XV of the *Canada Shipping Act*, means a facility, including an oil terminal, that is used in the loading or unloading of oil to or from ships.

Oil Pollution Emergency Plan: The Plan which a ship, as defined in section 660.2 of the *Canada Shipping Act*, and an oil handling facility that is designated by the Minister, are required to have in accordance with Part XV of the *Canada Shipping Act*.

On-Scene Commander (OSC): The individual responsible for the management of a response to an environmental emergency.

Polluter: This refers to the owner or operator of a fixed facility, a ship, or a rail, air or motor carrier, which might be the source or cause of a pollution incident.

Pollution Emergency: An event where a release of a hazardous substance (or the likelihood of such a release) threatens the natural environment. Such incidents include marine and

freshwater/inland oil spills and land-based oil spills. May also be referred to as an environmental emergency.

Radiological Release: An incident where a release of radiological substance, or the likelihood of such a release, within or outside the boundaries of Canada threatens the natural environment.

Regional Environmental Emergency Coordinator (REEC): The official designated by Environment Canada to manage the regional environmental emergencies programs of Environment Canada and their emergency response functions, and to chair the REET (in certain cases sharing this function with a representative of the provincial government).

Regional Environmental Emergency Team (REET): The advisory body consisting of scientific and technical specialists from federal, provincial, and local governments, assisted by representatives from industry and the public. REET may be chaired by an official of Environment Canada and/or the province, and is responsible for providing consolidated “one-window” environmental advice to the polluter, response organization, the federal on-scene commander (OSC) and representatives of other agencies involved in the emergency response.

Response Organization (RO): Any person or body in Canada certified by the Minister of Fisheries and Oceans pursuant to subsection 660.4(1) of the *Canada Shipping Act* to provide spill-response services in accordance with the provisions of that Act.

Ship: As defined in Part XV of the *Canada Shipping Act*, includes any description of a vessel, boat or craft designed, used or capable of being used solely or partly for marine navigation, without regard to method or lack of propulsion.

Support Agency: Any agency that owns, controls and/or has access to, expertise, authority, responsibility, manpower and resources required by the lead agency for the conduct of an operational response. A support agency may be any federal, provincial, territorial, or local government department, agency or board, any commercial or private organization, any individual in Canada, or any government, commercial or private organization or individual in another country.

Waters of Canadian Interest: This term encompasses:

- waters over which Canada claims jurisdiction, such as inland waters, internal waters and the territorial sea, and the territorial sea for the purpose of the *Canada Shipping Act*, and the *Oceans Act*;
- waters where Canada licenses or otherwise exercises control over activities, such as offshore mineral exploration and fishing, including those waters outside the territorial sea covered by the *Territorial Sea and Fishing Zones Act*, the *Oil and Gas Production and Conservation Act*, and the *Arctic Waters Pollution Prevention Act*;
- waters where, by international agreement, Canada has some jurisdiction or responsibility, including waters covered by the *Canada-U.S. Joint Marine Pollution Contingency Plan*, the *Canada-Denmark Agreement for Cooperation relating to the Marine Environment*, and
- waters where the federal government instructs agencies to exercise control and/or conduct operations.

INTRODUCTION

1.1 Emergency Management System In Canada

A tiered approach to emergency management has evolved in Canada, where — in keeping with the country's legal and constitutional framework — responsibility for initial action in an emergency lies with the individual. The different orders of government only step in as their resources and response capabilities are needed to control and mitigate the situation.

- If the individual cannot cope, the municipal services are called upon. Mayors and other elected heads of local governments are responsible for ensuring that emergency plans exist within their municipalities and that they are exercised regularly. Most emergencies occur within, and are dealt with effectively by, a municipality.
- If the municipality cannot manage to respond effectively, the province or territory may be called to come to its aid. Provincial and territorial governments are responsible for coordinating the interface with the municipalities.
- If a province or territory needs help, the federal government's aid is formally requested. The federal government intervenes only when asked or when the emergency clearly impacts on areas of federal jurisdiction (e.g. floods or spills on federal lands), or in a national emergency.

When the federal government does intervene, a Minister (and hence a department) may be named to assume the lead role and coordinate the collective effort of the federal government. Usually, the department whose normal responsibilities most closely relate to the circumstances of the disaster is given the lead. The federal response effort is normally conducted under the overall direction and control of the responsible provincial government/territory. In the event of a primarily federal or national emergency, the response is carried out in close collaboration with provincial responders.

1.2 Environment Canada and Environmental Emergencies

The mandate of Environment Canada, acting through the Minister, is to preserve and enhance the quality of the environment for the benefit of present and future generations of Canadians.

In respect of environmental emergencies, Environment Canada has responsibility for administering:

- the Canadian Environmental Protection Act;
- the pollution-control provisions of the Fisheries Act, (Department of Fisheries and Oceans lead);
- the Migratory Birds Convention Act;
- the 1973 Cabinet Decision (1175-73RD) clarifying the roles and responsibilities of Environment Canada with respect to environmental emergencies; and
- an updated Federal Policy for Emergencies approved by the Cabinet in 1995.

The department is also responsible for elements of emergency and crisis preparedness under the Emergencies Act and Emergency Preparedness Act (both Department of National Defence lead), and for implementing interagency and intergovernmental agreements (Figure 1.1).

Through the Atmospheric Environment Service, Environment Canada carries out its responsibility to protect Canadians and their economic infrastructure by providing timely observations, forecasts and warnings with respect to extreme weather conditions, ice, sea-state and other physical phenomena.

These legislative requirements and responsibilities direct Environment Canada to develop emergency prevention, preparedness and response programs, both nationally and internationally, and to guide their preparation. This includes research and technological development initiatives for dealing with environmental emergencies, which may be undertaken in cooperation with other federal departments; provincial, territorial and municipal/local governments; and/or industry.

Environment Canada has developed and maintains the following resources in support of meeting its responsibilities:

- a system of pollution incident and spill trend reporting;
- technical expertise in oil and chemical spill countermeasures;
- hazard identification, risk management and emergency response planning;
- weather forecasts and trajectory modelling;
- monitoring migratory bird protection and management;
- natural resource damage assessment; and
- hydrologic and water quality monitoring and research.

Environment Canada is responsible for supporting Canadian/international interests along the Canada-U.S. border and in shared areas (such as the arctic region) during major environmental emergencies. The department is also responsible for fulfilling international treaty commitments to assist other nations in responding to environmental emergencies.

In every environmental emergency, there is a predetermined lead agency. Environment Canada's key role in the event of an environmental emergency is to provide support and consolidated expert environmental advice to the lead agency responding to the emergency. The lead agency may be a federal or provincial department or agency, a response organization or the industry responsible for causing the event. If a spill takes place on federal lands or water of Canadian interest, the department having jurisdiction is responsible for cleaning up the spill.

Environment Canada may act as the lead agency, for example:

- in the event of spills at some federal facilities;
- when requested by a province or territory; or
- when environment is not being adequately protected.

The lead and support agency roles of Environment Canada are described in Section 2.3.

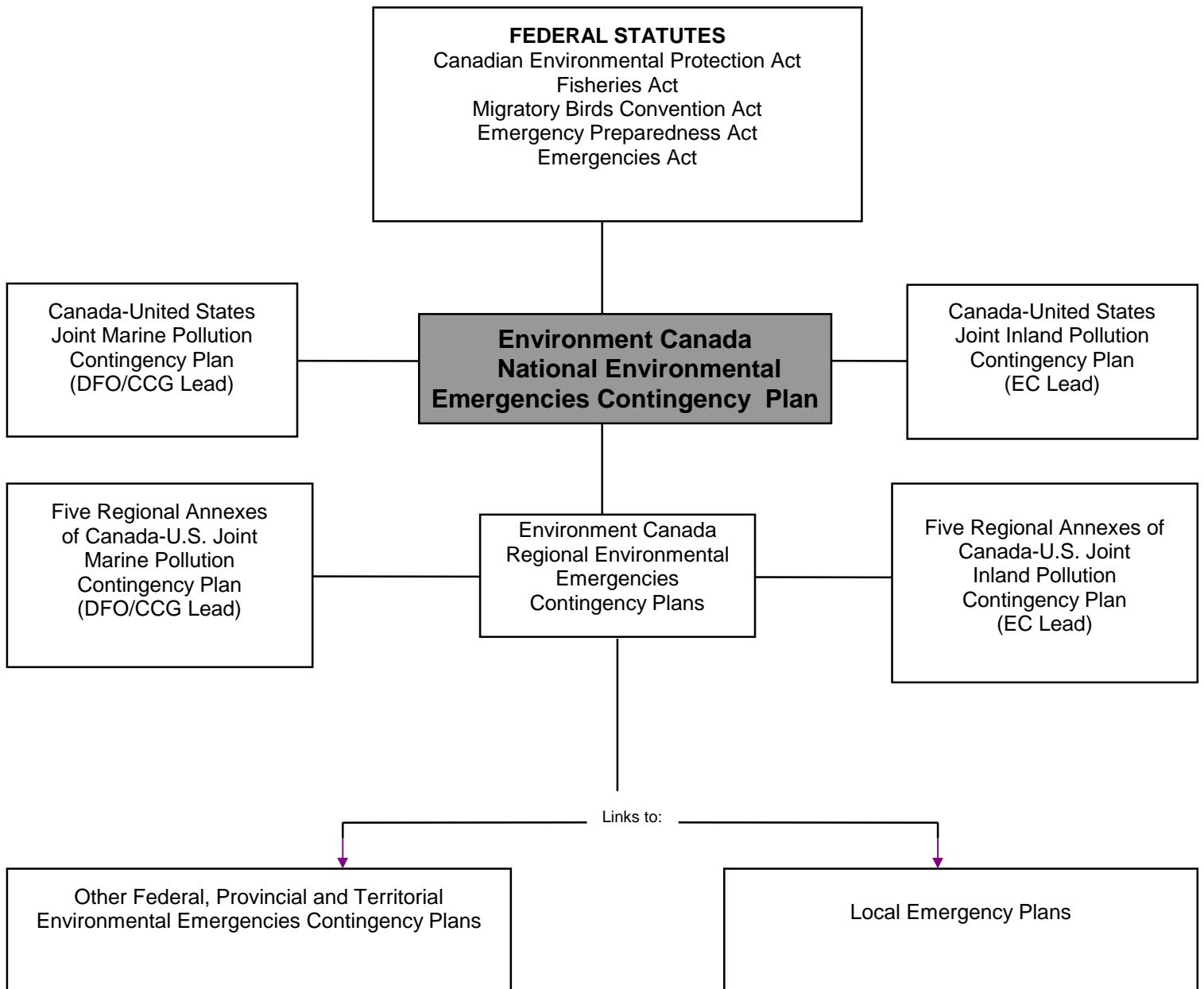


Figure 1.1 Framework of Environment Canada’s Environmental Emergencies Contingency Planning

1.3 Purpose

The purpose of Environment Canada's *National Environmental Emergencies Contingency Plan* (the National Plan) is to provide the policy framework on the department's role and involvement in environmental emergencies; to describe the emergency reporting network; and to provide procedural guidelines for environmental emergencies staff.

1.4 Scope

The National Plan details Environment Canada's role in environmental emergencies and natural hazards which may cause environmental emergencies. It defines Environment Canada's role as a lead or support agency. The plan establishes a framework under which Environment Canada provides technical support in the event of these and other emergencies with significant environmental impact. This includes consequences resulting from acts of terrorism involving nuclear, biological and chemical substances, and major power failures resulting from extreme weather events (such as the ice storm in Eastern Canada in 1998).

The National Plan recognizes the environmental diversity of Canada and the regional diversity of regulatory programs and jurisdictions which protect the Canadian environment. Thus, while the National Plan describes a national framework of response to pollution emergencies, implementation at the regional level respects the roles of Environment Canada's partners. Detailed procedures for the actions associated with the department's role in environmental emergencies may be described in various regional contingency plans.

The National Plan describes the organization and emergency functions of the multi-agency Regional Environmental Emergencies Team (REET) at the regional level, and the multi-agency Federal Committee for Environmental Emergencies (FCEE) at the national level.

Environment Canada is the trustee agency responsible for the protection and conservation of migratory birds. The National Plan provides a framework for departmental action with regard to the environmental emergencies component of that responsibility.

1.5 Response Strategy

Environment Canada's strategy for response to environmental emergencies (or potential emergencies) is to provide timely scientific and technical support to the lead agency and other organizations engaged in response to an emergency. Support involves employing the expertise of departmental staff to determine and implement the most effective means of protecting the environment and its early rehabilitation.

The details of departmental responsibilities as a support or lead agency are described in Section 5.0. It includes areas such as spill monitoring and countermeasures, weather reporting and prediction, trajectory modelling, migratory bird resource protection and rehabilitation, laboratory analysis, and environmental damage assessment and restoration.

In certain cases, the properties of the material discharged or the circumstances of the incident may represent a threat to the public and responders, as well as the environment. In these

instances, public safety will take precedence over environmental protection and rehabilitation. Scientific and technical expertise to identify threats to the public are important components of Environment Canada's response strategy.

In implementing this strategy, Environment Canada:

- i) coordinates the input of many agencies represented on REET and relays that input to the lead agency, polluter, or response organization at regular intervals during spill response and clean-up operations; and
- ii) coordinates the input from several senior officials from federal departments participating in FCEE during major national environmental emergencies.

REETs are multidisciplinary groups of environmental emergency experts from federal, provincial, municipal and regional government departments as well as private-sector agencies, academia, and communities. They are usually chaired by a representative from Environment Canada's regional office and, in some cases, may be co-chaired or chaired by a representative of the provincial government's environment ministry. The main function of a REET is to provide consolidated environmental advice to the lead agency, polluter and response organizations, as appropriate. This includes input from the Atmospheric Environment Service (AES) which is critical in responding to spills on land, air or water.

The FCEE¹ is intended to provide a forum for the interdepartmental consideration of strategies and priorities, and the coordination of federal support. Between emergencies, its role is to coordinate the environmental emergency planning and preparedness activities of member agencies, and establish mutually compatible, consistent and effective emergency arrangements and plans.

1.6 Linkages With Other Federal Departments

The National Plan acknowledges that the response to a major environmental emergency will involve many federal departments. For this reason, and to encourage multi-agency collaboration in preparedness as well as response activities, the National Plan has been reviewed and commented on by member departments of the FCEE. The National Plan complements the emergency plans of other federal departments and remains compatible with their procedures.

¹ FCEE membership includes: Environment Canada, Fisheries and Oceans Canada, Department of National Defence, Natural Resources Canada, Public Works and Government Services Canada, Health Canada, Transport Canada, Emergency Preparedness Canada, Canadian Heritage, Indian and Northern Affairs Canada, Atomic Energy Control Board, Agriculture and Agri-Food Canada, Department of Foreign Affairs and International Trade, Canadian International Development Agency, Human Resources Development Canada, Department of Justice, Privy Council Office, Treasury Board Secretariat, and National Energy Board.

JURISDICTION AND DEPARTMENTAL SERVICES

This section briefly describes the major legislation and policy documents which authorize the involvement of Environment Canada and other federal departments to protect the environment in the event of an environmental emergency. Related information may be found in the appendices:

- Appendix A contains a list of key existing agreements and memoranda of understanding which Canada and other domestic and international partners have signed to enhance key elements (prevention, preparedness and response) of the emergencies management system.
- Appendix B contains a selected list of resource documents of some of the departments responsible for the protection of the environment.

2.1 Federal Legislation

2.1.1 **Canadian Environmental Protection Act (Environment Canada)**

The main focus of the *Canadian Environmental Protection Act* (CEPA) is the control of toxic substances pollution, in part through the creation of a Priority Substances List and the regulation of those substances found to be toxic. Part II, section 34 of the current Act enables regulation of how such substances may be stored, displayed, handled, transported or offered for transport. Section 36 (1)(a) requires releases of such substances to be reported to an inspector, and 36 (1)(b) “all reasonable emergency measures [be taken] to prevent...remedy...or reduce or mitigate any danger to the environment...”. Part IV establishes limits for releases of such substances from federal facilities and lands. Part VI contains provisions to issue permits to control dumping at sea from ships, barges, aircraft and man-made structures.

There is a proposal to revise the current legislation (Bill C-32), under which a new section would be created to address “Environmental Matters Related to Emergencies”.

2.1.2 **Fisheries Act (Department of Fisheries and Oceans; Environment Canada)**

The *Fisheries Act* is a wide-ranging statute dealing with fish, their habitat, and their harvest and management in Canadian waters. There are two elements of the Act which bear directly on environmental emergencies:

- i) Subsection 35(1) prohibits the harmful alteration, disruption or destruction of fish habitat, defined in subsection 34(1) as meaning spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.
- ii) Subsection 36(3) prohibits, among other things, the deposit of a deleterious substance in waters frequented by fish. It should be noted that by virtue of an agreement between Environment Canada and the Department of Fisheries and

Oceans (DFO), the former has the responsibility for the administration and enforcement of subsection 36(3) and related provisions.

2.1.3 *Migratory Birds Convention Act* (Environment Canada)

The *Migratory Birds Convention Act* deals with migratory birds, their habitat, and their harvest and management. Under the Act, it is an offense to deposit oil, oily waste, or other substances harmful to migratory birds into water inhabited by migratory birds.

2.1.4 *Transportation of Dangerous Goods Act* (Transport Canada)

This Act imposes on a person having charge, management or control of dangerous goods, a duty to respond in cases of accidental spills. The Act also provides the authority for a Transportation of Dangerous Goods (TDG) inspector to order that the response be undertaken and, where measures have to be taken by Her Majesty, the Act provides for cost recovery from any persons who (through their fault or negligence or that of others for whom they are by law responsible) caused or contributed to the circumstances necessitating the measures.

This statute aims to promote public safety in the handling, offering for transport, transporting and importing of dangerous goods. Regulations under the Act establish the labelling, placarding, and shipping-document requirements for hazardous chemicals and hazardous wastes designated for transport. Safety standards are also prescribed for the means of containment, and emergency response assistance plans are required for certain dangerous goods. In addition, the Act provides for the designation of inspectors, while the Transport of Dangerous Goods Directorate provides a mechanism (CANUTEC) that ensures information needed in an emergency is readily available.

2.1.5 *Canada Shipping Act* (Department of Fisheries and Oceans; Transport Canada)

The *Canada Shipping Act* (CSA) covers a broad range of issues dealing with ships and, via the 1993 amendments, oil handling facilities. Sections dealing with the response to pollution from ships and oil handling facilities are administered by the Canadian Coast Guard (CCG); investigation and enforcement of pollution from ships is dealt with primarily by the Marine Safety Branch of Transport Canada. Section 660 of the Act requires both ships and oil handling facilities to have oil pollution emergency plans and arrangements with response organizations; and they must implement these plans in the event of an oil pollution incident. In addition, paragraph 678 (1)(a) gives the Minister the power to take such measures as deemed necessary to repair, remedy, minimize or prevent pollution damage from a ship. Environment Canada, through REET, plays a key role in prevention, preparedness and response to spills from ships and oil handling facilities.

2.1.6 *The Emergencies Act* (Emergency Preparedness Canada – Department of National Defence)

This statute replaced the *War Measures Act* as Canada's paramount emergency statute. It provides safeguarded special temporary federal emergency powers to deal with national emergencies. Defined emergencies include public welfare emergencies such as natural disasters, public order emergencies such as insurrection, and international emergencies and war that are beyond the capacity of the provinces/territories to deal with.

2.1.7 *Emergency Preparedness Act* (Emergency Preparedness Canada – Department of National Defence)

This statute authorizes Emergency Preparedness Canada to advance civil preparedness in Canada for emergencies of all types by facilitating and coordinating (among government institutions and in cooperation with provincial governments, foreign governments and international organizations) the development of civil emergency plans. Under this statute, each federal minister has specific responsibilities. In the case of Environment Canada, the Minister is responsible for developing and maintaining civil emergency plans covering, for example:

- i) the identification, assessment and mitigation of environmental hazards and their associated risks; and
- ii) conducting observations and forecasts and providing timely warnings with respect to weather, ice, sea-state and other physical phenomena.

2.1.8 Other Federal Environmental Legislation

Other federal legislation with some relevance to natural or pollution emergencies includes the following acts:

- Canada Water Act,
- Canada Wildlife Act,
- Canadian Environmental Assessment Act,
- Department of Environment Act,
- International Rivers Improvements Act,
- Arctic Water Pollution Prevention Act,
- International Boundary Waters Treaty Act,
- Energy Supplies Emergency Act,
- Hazardous Products Act,
- National Energy Board Act,
- National Transportation Safety Act, and
- Railways Act.

2.2 Policy Documents

2.2.1 Departmental Planning Responsibilities for Emergency Preparedness

An updated Federal Policy for Emergencies (approved by Cabinet in 1995) provides basic guidelines for the development of emergency plans by federal government departments. It outlines the basic emergency responsibilities of individual departments, and defines the broad scope of Environment Canada's emergency responsibilities.

2.2.2 Government of Canada, Cabinet Record of Decision 1175-73RD, 1973

This decision clarified the roles of Environment Canada in the realm of environmental emergencies. Among other points, it identified a coordinating role for Environment Canada at the national level for contingency planning and training, and for representing environmental interests. These responsibilities are clarified through the intergovernmental and departmental agreements and contingency plans listed in Appendix A.

2.2.3 Standard Operating Procedures for Environment Canada Emergency Response Officers

This 1994 document provides Environment Canada's environmental emergencies officers (at regional offices and headquarters) with a uniform and consistent approach to emergencies.

2.2.4 Departmental Emergency Book

The *Departmental Emergency Book* (1993) provides the basis for the development and implementation of detailed emergency and crisis management plans and procedures. This policy document outlines Environment Canada's role in two types of emergencies:

- i) pollution emergencies where a threat to human life exists; and
- ii) emergencies where there is a threat of injury or damage to property or the environment.

2.3 Departmental Services

2.3.1 Environmental Protection Service

In its normal role as a support agency, Environment Canada's (EC's) Environmental Protection Service (EPS) provides technical, scientific, policy and legislative information to the polluter and/or lead agency. The goal is to support response operations, thereby protecting the environment and minimizing damage. These activities may involve many of the following functions:

- convening, where warranted, the Regional Environmental Emergencies Team (REET) to:

- i) consolidate environmental advice for the on-scene commander of the polluter and/or lead agency, and
 - ii) assemble scientific and technical information in support of their response;
- preparing pollution incident reports (PIRs) on significant incidents and disseminating the PIRs to appropriate individuals;
 - informing the Minister and other government departments on incident details and the status of remedial action for major events;
 - identifying environmental resources at risk and priorities for protection;
 - identifying spilled material and associated risks through interviews, review of shipping documents, analysis of air, liquid or sediment samples, inspection of labels and placards, etc.;
 - confirming the identity of the polluter (and shipper for transportation incidents) and lead agency;
 - advising on hazardous material properties, behaviour, fate, and potential health effects;
 - arranging for emergency financing, administration, field support from headquarters, as well as communications equipment, and transportation as required;
 - assisting with environmental monitoring;
 - inspecting and legal sampling to determine the degree and extent of contamination (for enforcement);
 - providing spill behaviour advice and trajectory modelling of spill dispersion in water and/or on land;
 - providing technical advice on spill clean-up equipment and countermeasures through the Environmental Technology Centre (ETC);
 - reviewing proposals for in-situ burning, spill treating agents, and other potentially damaging clean-up techniques, in consultation with REET; and
 - maintaining a trained EC environmental emergencies team for deployment when EC is directly involved in response operations, assembling scientific and technical information in support of their response, and assisting in the preparation and review of response plans.

Environment Canada may assume the lead agency role for the federal government:

- i) in the event of spills at some federal facilities (through prior agreement for an EC lead),
- ii) when requested by a province or territory, or
- iii) when it is perceived that the environment is not being adequately protected.

In these circumstances, Environment Canada (through EPS) may undertake some or all of the tasks listed above plus some or all of the following additional tasks:

- contacting the polluter (if known), obtaining as much information on the incident as possible (cause, product, receiving environment, containment and clean-up

measures, etc.), and giving verbal/written recommendations on response and clean-up actions;

- contacting the appropriate local public official (e.g. fisheries officer, officer from provincial ministry responsible for the environment, Canadian Coast Guard officer, local police or fire department official) and requesting an initial incident assessment;
- taking over the incident, identifying the appropriate response organization, hiring contractors, and managing all activities to protect the environment;
- dispatching an Environmental Protection Service investigator to the scene of the spill (responsibilities defined under CEPA and the Fisheries Act);
- initiating an investigation if it is suspected that a federal act or regulation has been violated;
- monitoring the incident, and providing regular advice to the polluter;
- initiating cost recovery for its efforts and expenditures resulting from the incident; and
- providing accurate and timely information to the public and media.

2.3.2 Atmospheric Environment Service

Environment Canada's Atmospheric Environment Service (AES) provides forecasts and/or warnings of possible weather-related emergencies (storms, tornadoes, heavy rainfall or snowfall, high winds, drought conditions, etc.) and performs investigations of the aftermath of many of these meteorological phenomena. In addition, AES provides vital support to the members of response teams dealing with a variety of emergencies — both nationally and internationally — including environmental emergencies, earthquakes, forest fires, floods, and radiological releases. All response efforts are affected by prevailing weather conditions; the prediction of adverse conditions is particularly important as it may affect responder safety and countermeasures options. In support of response to environmental emergencies, AES activities may include the following:

- providing needed meteorological information and forecasts as requested by provincial or other responders;
- providing information on meteorological, ice, and oceanographic conditions for marine, coastal, and inland waters;
- providing trajectory modelling of volcanic ash and contaminant plumes (support provided by CMC, Dorval);
- providing short- and long-term site-specific meteorological forecasts;
- installing mobile weather stations at spill sites;
- providing scientific assistance as part of the departmental emergency response team;
- making telecommunications and other communications facilities available; and
- hydrologic data gathering, modelling and projections in support of flood forecasting.

2.3.3 Environmental Conservation Service

The Canadian Wildlife Service (CWS) is a component of Environment Canada's Environmental Conservation Service (ECS). Staff from CWS administer and implement the department's trustee responsibility for migratory birds. The emergency response activities that flow from this responsibility may include:

- providing data on migratory birds and species at risk, and advice on areas to be protected;
- conducting surveys of affected or potentially affected areas and their migratory bird populations;
- coordinating the rescue, triage, and treatment of affected migratory birds and endangered species;
- providing guidance to other agencies and volunteer groups on the clean-up of oiled or otherwise impacted migratory birds and endangered species;
- sampling and analyzing oiled or affected wildlife for possible prosecution of the responsible party;
- assessing the damage to migratory birds and species at risk (and their populations) and providing detailed documentation of findings for future cost recovery from the responsible party;
- conducting studies of affected populations of migratory birds and endangered species at risk to determine the status of their recovery and that of their critical habitats; and
- planning and undertaking actions to prevent damage to wildlife populations by:
 - developing expertise in bird hazing and bird exclusion techniques,
 - ensuring that the best hazing and exclusion equipment is available, and
 - ensuring hazing is carried out effectively.

ECS also provides procedural and expert advice with respect to flood protection, including flood-plain mapping, flood-protection technology, the implementation of flood-plain management policy agreements with the provinces, and the exercise of any federal authority or influence over the operating plans of jointly funded flood-protection infrastructure.

2.3.4 Laboratories – EPS

Environment Canada laboratories in the regions, and the Environmental Technology Centre (ETC) in Ottawa, play key roles as members of the departmental emergency response team. Although there are some regional differences, all laboratories carry out the same basic activities, as outlined below.

2.3.4.1 Regional Laboratories:

- provide a wide range of analytical capabilities for organic and inorganic chemistry, and toxicology;

- identify likely analytical requirements and alert appropriate personnel accordingly;
- advise and support the sampling, handling, and clean-up of spilled pollutants;
- coordinate on-site toxicity monitoring; and
- coordinate and manage chemical testing and toxicity assays.

2.3.4.2 Emergencies Science Division (ESD-ETC):

- advise on hazardous material properties, analysis, behaviour, fate, and environmental effects;
- conduct laboratory tests to determine physical, chemical, and ecotoxicological characteristics of hazardous materials and the effectiveness and effects of spill-treating agents;
- assist in the identification of the source and timing of the spill;
- provide spill-behaviour advice and trajectory modelling of spill movement on land and water;
- provide advice and training regarding personnel protection;
- advise and support on-site monitoring of human and environmental hazard levels;
- provide advice and support for sample collection at spill sites;
- provide advice and on-site support for airborne spill remote-sensing services;
- advise on spill countermeasures, particularly relating to chemical and biological treatment;
- evaluate spill countermeasures using environmental criteria; and
- advise and provide laboratory support for the analysis of samples and the measurement of reactivity, properties and environmental behaviour of spilled substances.

2.3.4.3 Emergencies Engineering Technologies Office (EETO-ETC):

- provide advice on spill countermeasures, particularly mechanical containment and recovery, physical treatment, and disposal techniques;
- conduct laboratory bench-scale testing to assist in the selection of chemical spill clean-up technologies; and
- provide on-site specialized clean-up support at chemical spill and insecure hazardous waste sites through deployment of state-of-the-art prototype mobile water- and soil-treatment systems.

The services described above are arranged through SAIC Canada (Science Applications International Corporation-Canada), the contract manager for ETC (under the Alternative Service Delivery initiative).

2.3.4.4 Analysis and Air Quality Division (AAQD-ETC)

- advise and provide laboratory support for the analysis of complex samples for organic parameters, and for a broad range of toxic inorganic elements; and

- coordinate government and private specialized laboratory services.

2.3.5 National Water Research Institute (NWRI) – ECS

National Water Research Institute conducts a comprehensive program of research and development in the aquatic sciences. In support of emergency response operations, the NWRI provides:

- expertise on the impacts of environmental stressors on the hydrology and ecology of aquatic ecosystems;
- assessment and restoration of surface and ground water systems degraded by municipal and industrial effluents, emissions and wastes;
- development and evaluation of mitigative and rehabilitative techniques and technologies; and
- large scale logistical support for field operations.

2.3.5.1 National Laboratory for Environmental Testing (NLET)

NWRI's National Laboratory for Environmental Testing offers a broad range of testing and analytical services in the field of aquatic sciences. These services include:

- ultra-trace detection;
- plasma spectrometry analysis;
- analysis of organics, metal, major ions, and nutrients in water;
- soil/sediment and biota/tissue analysis; and
- advice in the design of environmental sampling and interpretation of chemical data.

2.3.6 Canadian Meteorological Centre (CMC) – AES

The Canadian Meteorological Centre has offices in Dorval (near Montreal) and Downsview (near Toronto). CMC is responsible for:

- supercomputer facilities supporting national operational meteorological and environmental predictions, environmental emergency response (including nuclear accident and volcanic ash cloud predictions), and climate change research;
- archiving, analyzing and disseminating data related to climate, stratospheric ozone, ultraviolet radiation, air quality and water quantity and quality; and
- Environment Canada's national telecommunications and data management systems.

TYPES OF EMERGENCIES AND DEPARTMENTAL ROLE

This section classifies various types of environmental emergencies and natural hazards, and indicates how Environment Canada would be involved in an emergency response. Environmental emergencies may result from anthropogenic (human) activities or be the result (side effect) of a natural hazard. Environment Canada may be either a support or the lead agency; these roles are identified in Table 3.1.

The listing in Table 3.1 is based upon Environment Canada's understanding as to who is the lead agency for a particular type of environmental emergency. It should be pointed out that the identification as a lead or support agency in Table 3.1 does not in itself impose any obligation on the named agency. Rather the obligation is directed from sources such as relevant federal and provincial legislation, and memoranda of understanding and agreements (see Appendix A). Environment Canada or the federal government cannot seek to force the named agencies to carry out obligations on the basis of this contingency plan.

This section covers departmental roles in environmental emergencies, as well as radiological releases. However, it should be noted that the organization is in place to address other emergencies with potentially significant impact on the environment, such as power failure, civil insurrections, terrorism, and disruption of information and data transmission networks.

3.1 Environmental emergencies

Environmental emergencies where Environment Canada acts as either the support or lead agency are classified as follows:

- transportation
- industrial and storage facilities
- federal facilities/lands
- spills of unknown origin
- radiological releases
- Canada/U.S. transboundary spills
- international pollution incidents

The departmental role in various types of environmental emergencies is indicated in Table 3.1 and described in sections 3.1.1 to 3.1.7. The departmental role in natural hazards is outlined in Section 3.2 and Table 3.1.

Table 3.1 – Lead and Support Agencies for Environmental Emergencies		
3.1 Environmental Emergency	Lead Agency	EC Role
3.1.1 TRANSPORTATION		
<u>Shipping</u>		
ship in Canadian waters, public port or harbour	Canadian Coast Guard or Transport Canada	support
ship in a port administered under the <i>Canada Ports Corporation Act</i>	port or Canadian Coast Guard or Transport Canada	support
ship operated by government department (e.g., DFO, DND)	operating department or Environment Canada	lead or support
ship in Harbour Commission Port	port or Canadian Coast Guard or Transport Canada	support
ship under control of St. Lawrence Seaway Authority within the Welland Canal or within the locks in the Montreal to Lake Ontario section	Seaway Authority or Transport Canada	support
<u>Motor or Rail Carrier</u>		
into freshwater or on land (except territories as noted below)	province or Transport Canada	support
on land from carriers travelling on territorial roads and highways	N.W.T./Y.T.	support
on those portions of "winter" ice roads over water and on territorial land (i.e., lands in the NWT vested in the Crown)	Indian and Northern Affairs Canada	support
into the marine environment	Province or Transport Canada	support
on federal lands	Environment Canada or operating federal department	lead or support
<u>Aircraft (including seaplane)</u>		
into freshwater or on land	province or Transport Canada	support
into the marine environment or on federal lands	Transport Canada	support
<u>Pipelines (land-based)</u>		
into freshwater or onto land	province or National Energy Board or Transport Canada	support
into the marine environment or on federal lands	National Energy Board or Transport Canada	support
transboundary pipelines	National Energy Board or Transport Canada	support
3.1.2 INDUSTRIAL AND STORAGE FACILITIES		

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Table 3.1 – Lead and Support Agencies for Environmental Emergencies		
3.1 Environmental Emergency	Lead Agency	EC Role
<u>Land-based Facilities (South of 60°N)</u> into the marine environment or into fresh water onto land	province province	support support
<u>Land-based Facilities (NWT/YT)</u> facilities permitted under federal legislation (e.g. mines) and airstrips operated on leased federal land community airstrips and facilities on Commissioner's Lands	Indian and Northern Affairs Canada territory	support support
<u>Offshore Mooring Points (SPM)</u> from ship or ship's equipment to marine environment or freshwater from sub-sea pipeline or any other equipment supplied from shore (except N.W.T. — see below under "Oil and Gas Exploration or Production Installations") from loading facilities connected to oil production platforms in the Nfld. offshore area from loading facilities connected to oil production platforms in the Nova Scotia offshore area	Canadian Coast Guard province/territory National Energy Board / Can.-Nfld. Offshore Petroleum Board National Energy Board / Can.-N.S. Offshore Petroleum Board	support support support support
<u>Oil Handling Facilities (as defined under <i>Canada Shipping Act</i>)</u> engaged in the loading or unloading of oil from a ship	Canadian Coast Guard	support
<u>Oil and Gas Exploration or Production Installations</u> installations in the Beaufort Sea, Hudson Bay, Gulf of St. Lawrence and Arctic Islands including all pipelines and refineries in the N.W.T. bottom-founded installations in the Great Lakes (on the lake bed) installations in the Newfoundland offshore area installations in the Nova Scotia offshore area drilling rigs/platforms in transit	National Energy Board Ontario Ministry of Natural Resources Can.-Nfld. Offshore Petroleum Board Can.-N.S. Offshore Petroleum Board Canadian Coast Guard	support support support support support

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Table 3.1 – Lead and Support Agencies for Environmental Emergencies		
3.1 Environmental Emergency	Lead Agency	EC Role
3.1.3 FEDERAL FACILITIES/LANDS		
any federal facility (including offshore mooring points, major airports, and military bases) to any receiving environment	operating federal department or Environment Canada	support or lead (2.3.1)
3.1.4 SPILLS OF UNKNOWN ORIGIN		
Great Lakes north of 60° (except in Quebec)	Canadian Coast Guard Indian and Northern Affairs Canada	support support
other waters of Canadian Interest land based	Canadian Coast Guard province or Environment Canada (for federal facility spill)	support support or lead
3.1.5 RADIOLOGICAL RELEASES		
transportation accidents involving regulated quantities of radioactive material	province/Atomic Energy Control Board	support
mining or milling operations	province/Atomic Energy Control Board	support
medical/pharmaceutical operations	province/Atomic Energy Control Board	support
Canadian licensed nuclear facilities	province/Atomic Energy Control Board	support
nuclear-powered vessels in Canadian waters	Canadian Coast Guard	support
major nuclear emergency in the U.S. or elsewhere with off-site consequences	Health Canada	support
other sources in Canada (nuclear-powered satellites or terrorist acts)	Health Canada	support
3.1.6 CANADA/U.S. TRANSBOUNDARY SPILLS		
Canada/U.S. contiguous waters other than inland	Canadian Coast Guard/U.S. Coast Guard	support
Great Lakes	Canadian Coast Guard/U.S. Coast Guard	support
inland (as defined by <i>Canada/U.S. Joint Inland Pollution Contingency Plan</i>)	Environment Canada/ U.S. Environmental Protection Agency	lead
3.1.7 INTERNATIONAL POLLUTION INCIDENTS		

Table 3.1 – Lead and Support Agencies for Environmental Emergencies		
3.1 Environmental Emergency	Lead Agency	EC Role
into international contiguous waters from land-based spills	Foreign Affairs or Environment Canada	support
any source originating in foreign waters where it crosses into Canadian waters	Canadian Coast Guard	support
3.2 Natural Hazard	Lead Agency	EC Role
severe weather event (storm, hurricane, tornado, lightning strike, heat/cold wave, dense fog, sea/lake storm surge, sand/dust storm, drought)	province/designated federal department	support
earthquake	province/territory	support
flood	province/territory	support
volcanic eruption	province/territory	support
avalanche, landslide and mudslide	province/territory	support
tsunami	province/territory	support
forest fire	province/territory	support

3.1.1 Transportation

Transportation-related spills are classified under the subheadings of marine (including Great Lakes), road and rail carriers, aircraft (separate from spills at airports themselves), and pipelines. Spills at loading facilities and terminals associated with different modes are covered under industrial and storage facilities.

3.1.2 Industrial and Storage Facilities

Industrial facilities are classified as land-based facilities south of 60°N, land-based facilities in the territories, offshore mooring points (commonly referred to as “single point moorings” or SPMs), and oil and gas exploration or production facilities.

Subject to local arrangements, Environment Canada may be the lead agency for spills from land-based facilities into the marine environment. The arrangements can vary across the country. At all other industrial facility types, Environment Canada plays a support role.

3.1.3 Federal Facilities/Lands

The operating federal department or Environment Canada is the lead agency for all spills at federal facilities. Generally, Environment Canada assumes the lead through prior agreement with the operating department, or when it is perceived that the

environment is not being adequately protected. The response and clean-up operations are initiated and funded by the operating departments.

3.1.4 Spills of Unknown Origin

Spills of unknown origin in the marine environment and Great Lakes represent pollution emergencies not attributable to a known offender. For mystery releases from shipping, the Canadian Coast Guard (CCG) has the lead with Environment Canada playing a support role. If the spill is from a land-based source, the province or Environment Canada assumes the lead agency role.

3.1.5 Radiological Releases

A nuclear emergency event has the potential for widespread, transboundary distribution of radioactive material, with consequences that could implicate various federal government departments and agencies within several jurisdictions — municipal, provincial, federal and international.

Nuclear facilities in Canada are licensed by Atomic Energy Control Board (AECB), the federal regulatory agency. Therefore, the federal government is involved immediately during any incident at a nuclear facility. Generally, the province is the lead agency for any nuclear emergency that impacts the environment outside a facility site. Federal response would be required where there is potential for transboundary consequences, or when assistance is requested from the province.

Health Canada is the lead federal department in the event of a major nuclear emergency. Health Canada has prepared the *Federal Nuclear Emergency Plan* (FNEP). The plan describes the coordinating framework for a federal response to a nuclear emergency. Federal response would involve various federal departments including Environment Canada.

The obligation to respond to any emergency involving radioactive material lies with the polluter (i.e. the licensee or, in the case of transportation accidents, the shipper/licensee and the transport carrier), supported by first responders, provincial radiation protection staff and AECB inspectors. For events where the province needs federal support, Health Canada coordinates federal assistance through FNEP. For situations with international or national implications, Health Canada assumes the lead, supported by other federal agencies as defined in FNEP.

Dispersion and trajectory modelling for different accident scenarios show that the federal government will be implicated in most cases because nearly all of the facilities are located close to the Canada/U.S. border.

Environment Canada's key role under FNEP is the provision of meteorological data and forecasts, and running atmospheric transport and dispersion models. The department is also responsible for coordinating and facilitating sampling and analysis of water, soil and vegetation affected by radiological releases. Other functions include technical advice

related to environmental hazards, involvement in communication aspects, contribution to policy review, and direction and strategic assessment.

The Canadian Meteorological Centre (CMC) operated by Environment Canada in Dorval (near Montreal) has the primary responsibility for predicting the atmospheric pathways and dispersion of radionuclides in Canadian airspace. Based on this modelling capability, CMC also has international responsibilities as a Regional Specialized Meteorological Centre (RSMC) for the World Meteorological Organization (WMO).

3.1.6 Canada/U.S. Transboundary Spills

Joint Canada-United States response in dealing with transboundary pollution emergencies is covered at the national level by two contingency plans. One deals with marine spills, where the Canadian Coast Guard assumes the lead role representing Canada working with the United States Coast Guard; the other covers inland pollution incidents where Environment Canada becomes the lead federal agency working with its counterpart, the United States Environmental Protection Agency (EPA). Details are provided in Section 6.0, "Transboundary Pollution Incidents".

The *Canada-United States Joint Marine Contingency Plan* (the Marine Plan) provides a framework for Canada-U.S. cooperation in response to marine pollution incidents threatening the inland or coastal waters of both countries, or major incidents in one country where the assistance of the neighbouring country is required. Implementation of the plan is the joint responsibility of the Canadian Coast Guard and the U.S. Coast Guard. Environment Canada would be called upon to provide support to the on-scene commander, and to participate as part of the joint response team. The Marine Plan contains five geographically oriented annexes covering the Atlantic Coast, Pacific Coast, Beaufort Sea, Dixon Entrance, and the Great Lakes. Details are provided in Section 6.0.

The *Canada-United States Joint Inland Pollution Contingency Plan* (the Inland Plan) was developed to complement the previously established Marine Plan. It provides for an International Joint Advisory Team to maintain, promote and coordinate the Inland Plan, and regional joint response teams to advise and support to the federal on-scene commander (OSC) in the event of an emergency.

The Inland Plan is implemented:

- i) when a pollution incident threatens the environment, public health, property or public welfare along the shared inland boundary; and/or
- ii) when an incident is of sufficient magnitude to require assistance from the other country (even though only one country may be threatened).

The federal OSC supports local, state, territorial and provincial response agencies. However, if the necessary response is beyond their capabilities, or if requested by the authorized agency, the federal OSC may assume command of the response to the polluting incident.

The primary federal interaction under the Inland Plan is through Environment Canada and the United States Environmental Protection Agency (EPA). The Inland Plan divides the Canada-U.S. boundary into five regional planning areas. Details are provided in Section 6.0.

3.1.7 International Pollution Incidents

Environment Canada may be called upon to provide advice or participate in support teams assembled to help foreign countries deal with catastrophic international pollution incidents (e.g. Bahrain and Qatar, during the Persian Gulf spill; the Republic of Komi pipeline spill; and the Exxon Valdez spill). The extent of Environment Canada involvement is decided on a case-by-case basis.

3.2 Natural Hazards

Across Canada, it is the local, provincial or territorial government which is responsible for the public aspects of emergency response to a natural hazard. The specific lead agency or level of government directing the response is determined by the appropriate provincial or territorial statute or authority. Federally, Emergency Preparedness Canada (EPC) – Department of National Defence (or the department designated by the Cabinet) coordinates federal support to provincial governments and, through them, to local governments.

Environment Canada may be called upon to provide specialized scientific support in response to natural hazards which may have a significant impact on the environment, including:

- extreme weather event (severe storm, hurricane, tornado, etc.)
- earthquake
- flood
- volcanic eruption
- avalanche, landslide or mudslide
- tsunami
- forest fire

The provinces/territories are primarily responsible for developing contingency plans and implementing response to these natural hazards. Nationally, EPC has coordinated the development of the National Support Planning Framework with participation from all levels of government and non-government agencies with responsibility to protect the life, health, property and environment of Canadians. Under this framework, EPC has developed the National Earthquake Support Plan (NESP) which defines the roles of various federal government (including Environment Canada) and non government agencies, in providing support to the affected province/territory in the event of a major earthquake. The NESP framework can be applied to cover any other major national civil emergency.

3.3 Environmental Emergency Resulting From Natural Hazards

Following a major earthquake or an extreme weather event (or any other natural hazard described in Section 3.2), many factories, warehouses and transport systems involved in the handling and storage of hazardous substances may be seriously affected. Environment Canada plays a key role in the identification, measurement and trajectory modelling of hazardous materials and toxic releases to air, land and water. The department would also assist with containment and clean-up, both directly and/or by coordinating the mobilization of environmental industry support from other parts of Canada or internationally.

Environment Canada (AES) may be called upon to provide site-specific forecasts or special weather data to assist response agencies in dealing with a variety of environmental emergencies (e.g. spills, fires, and natural-gas leaks). As part of Environment Canada's support, it may be necessary to dispatch a meteorologist(s) to the provincial operations centre for on-site meteorological support.

In addition, environmental monitoring by Environment Canada would include surveillance of facilities handling hazardous substances from which discharges could occur, and ensuring that the earliest possible notice is communicated to operators of these facilities.

ENVIRONMENT CANADA EMERGENCY REPORTING STRUCTURE

This section describes the reporting systems operated by Environment Canada.

Environment Canada operates two emergency incident reporting systems: one for environmental emergencies (described in Section 4.1), and the other for weather-related emergencies, which is part of the National Public Weather Program operated by Environment Canada's Atmospheric Environment Service (AES). The National Public Weather Program includes Public Weather Warning and Marine Warning Systems. The National Program provides for appropriate meteorological support to spill response teams during environmental emergencies.

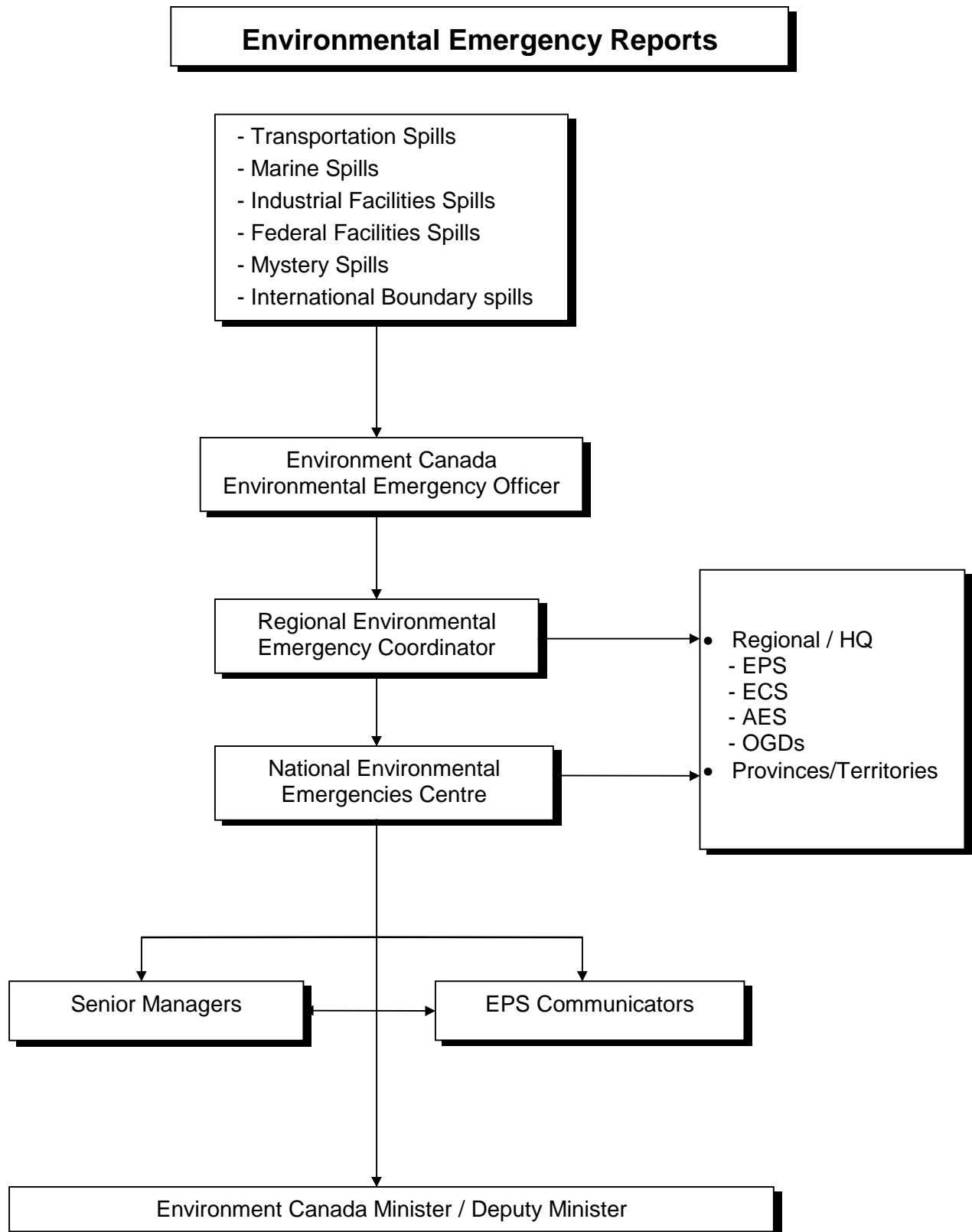
The National Environmental Emergencies Centre (NEEC), Hull, Quebec, is the focal point of Environment Canada's emergencies reporting network. Through NEEC, reports are received from regional offices (Atlantic, Quebec, Ontario, Prairie & Northern, and Pacific & Yukon) and other government departments (Transport Canada, Canadian Coast Guard). All reports are archived and the most serious are transmitted to departmental senior management, including the Minister. NEEC tracks incidents, monitors their potential for adverse environmental impact, and offers assistance when appropriate or when requested. Figure 4.1 presents the incident reporting system for environmental emergencies.

4.1 Environmental Emergencies Reporting System

4.1.1 Operational Requirements

The incident reporting system is designed to meet the following departmental requirements:

- i) operate a 24 hour per day, seven day per week national system, receiving and logging all incoming spill reports and disseminating information to senior managers and other government departments as appropriate;
- ii) trigger the invocation of Environment Canada regional, national or joint Canada/United States environmental emergencies contingency plan(s) and the mobilization of the Regional Environmental Emergencies Team (REET);
- iii) supply timely, coordinated and accurate incident information and a situation assessment to senior management, including the Deputy Minister and the Minister;
- iv) distribute to environmental emergencies decision-makers at the regional and national levels, a consistent and current series of situation reports, including action items, roles and activities of all players;
- v) provide incident notification and status reports to the lead agency, other support agencies and departmental operations, as required; and
- vi) be the contact point for international organizations.



4.1.2 Reporting System

The national and regional emergency spill-reporting hotlines of the Environmental Emergencies Program operate and are available to receive “emergency” reports 24 hours per day, seven days per week. In some regions, arrangements have been made with other agencies (i.e. Canadian Coast Guard, provinces) to consolidate spill reporting as a “one-window” harmonized system. In the Atlantic Region for example, Environment Canada, CCG and provincial departments of environment have “one window” (i.e. a single method) for spill reporting. A one-window, harmonized reporting system is also operational in the Ontario region. Work on the integration of federal and provincial spill-reporting systems is currently underway in British Columbia. Arrangements are also in place with the provinces of Alberta, Saskatchewan and Manitoba, and Northwest Territories for integrated spill-reporting systems. This arrangement is to be extended to include Nunavut.

The regional environmental emergencies officer (EEO) is responsible for obtaining sufficient information to assess the situation, initiating appropriate follow-up, advising the regional environmental emergencies coordinator and senior departmental management when necessary, and ensuring that a regional fan-out has occurred. Procedures are set out in the *Standard Operating Procedures for Environment Canada Environmental Emergencies Officers*. The required information includes:

- Date and time of
 - i) occurrence and/or observation, and
 - ii) report to EEO;
- Name and organization of observer and/or caller, contact number;
- Substance spilled (if unknown describe appearance, odour);
- Estimated quantity spilled (basis for estimate);
- Location of spill;
- Polluter and/or source of spill;
- Affected environment (marine, land, etc.);
- Weather/atmospheric conditions;
- Consequences (fish kill, spill contained, evacuation, etc.);
- Actions being taken to control spill;
- Agencies notified or on-scene;
- Safety concerns; and
- Other information.

Pollution incident reports (PIRs) for events that are significant in nature are transmitted from regional offices to the National Environmental Emergency Centre (NEEC), and are entered into the National Environmental Emergencies System (NEES). Reports requiring a fast briefing of senior management of potentially significant incidents are transmitted as NEEC Alerts (4.1.4.3).

4.1.3 Incident Classification

Classifying the severity of an incident is an important prerequisite to estimating the appropriate level of response. Initial reports may not provide all the necessary clues. Therefore, it is important for the EEO to obtain as much information as possible from the first reports, identify the information gaps, and ensure that the first responders on site collect the missing information, and then assess incident severity. This assessment must be based on the judgement of the environmental emergencies officer.

Since initial information may be incomplete, accurate analysis of the situation is difficult. For these reasons, it is departmental practice to plan for the worst of the range of incident possibilities, rather than wait until more complete incident information is available.

The criteria for judging the severity of an incident include:

- danger to human life (e.g. evacuation required);
- possibility of a pollutant crossing an international or interprovincial boundary;
- potential health hazard (e.g. spill in vicinity of water intakes, or release near a population centre);
- quantity and toxicity of material released or spilled;
- damage to natural resources or property;
- ability of local responders to deal with the incident;
- media interest; and
- uncertainty concerning the nature and magnitude of the incident.

4.1.4 Internal Departmental Reports

4.1.4.1 Pollution Incident Reports

The pollution incident report (PIR) is the first substantive document about a spill incident. It is completed and transmitted electronically to NEEC for incidents judged to be of sufficient severity based on defined criteria.

As an incident progresses, the original PIR may be followed by a series of supplementary reports. They include REET situation reports, questions and answers for senior managers, and regional briefing notes.

4.1.4.2 Spill Report Briefing Note

A spill report briefing note is prepared for an incident judged to be of potential national significance and thus of importance to the Minister and other senior departmental officials. Such notes are generated directly from the PIR data base. Spill report briefing notes are transmitted to departmental senior management, ministerial briefing and departmental communications offices, as well as national and appropriate regional environmental emergency offices.

4.1.4.3 NEEC Alert

A NEEC Alert is a one-page summary document used as an informal “heads up” to advise senior managers in the event of a significant environmental incident. The NEEC alert provides a brief interim report on what is currently known or suspected about a situation, actions underway and planned, and the agencies involved in the incident.

4.2 Radiological Releases

In the event of a major nuclear incident, AES (through its CMC operations centre in Dorval, Quebec) activates the nuclear incident reporting system (for releases to air), notifies Health Canada, Atomic Energy Control Board (AECB), Emergency Preparedness Canada (EPC), and International Atomic Energy Agency (IAEA) to activate their contingency plans in support of their response. The system is also designed to facilitate Canada’s international Regional Specialized Meteorological Centre (RSMC) role with respect to dispersion advisory support to requesting countries.

The specific system design, incident classification, and notification and reporting mechanisms are given in the *Federal Nuclear Emergency Plan (FNEP) Standard Operating Procedures (SOPs)** for CMC, Dorval. This includes international transfer of notification messages and technical information via the Global Telecommunications System (GTS) of the World Meteorological Organization (WMO) on behalf of IAEA.

Joint Canada-United States response to transboundary radiological releases is covered under the *Canada-United States Joint Radiological Emergency Response Plan*, under which AES plays a significant operational role.

* under revision

ORGANIZATION AND RESPONSIBILITIES DURING ENVIRONMENTAL EMERGENCY

This section describes the department's organization structure for dealing with a major environmental emergency in Canada, including:

- contribution to the multi-agency Regional Environmental Emergencies Team (REET) and Federal Committee for Environmental Emergencies (FCEE);
- support to the *National Earthquake Support Plan*, the *Federal Nuclear Emergency Plan*, and the *National Counter-Terrorism Plan*;
- support during natural hazards and pollution emergencies of national significance; and
- provision of overall support to the National Support Planning Framework under the leadership of Emergency Preparedness Canada.

This section also includes information about Environment Canada's contribution in terms of scientific and technical input in dealing with all aspects of environmental emergencies, the duties of national support personnel within this structure, and general instructions and safety requirements that apply to emergency incidents.

To accommodate regional variability in administrative arrangements, the emergency organization and responsibilities outlined are generic. It is assumed that specific responsibilities may be fulfilled by partner agencies through REET or other partnerships.

Environment Canada's regional offices (Atlantic, Quebec, Ontario, Prairie & Northern, and Pacific & Yukon) are responsible for the development, maintenance, and implementation of the regional environmental emergencies plans complementing the National Plan.

In addition to its domestic responsibilities, Canada has commitments under international treaties to assist and cooperate with other nations in the prevention, preparedness and response to environmental emergencies. It is also incumbent upon Canada to ensure that Canadian environmental interests along the Canada-U.S. border and in Arctic areas are protected. To this end, Environment Canada participates in international fora including:

Organization for Economic Co-operation and Development (OECD),
United Nations Environment Programme (UNEP),
United Nations Economic Commission for Europe (UNECE),
International Maritime Organization (IMO),
International Joint Commission (IJC),
American Society for Testing and Materials (ASTM),
Arctic Environmental Protection Strategy (AEPS) for circumpolar countries,
International Atomic Energy Agency (IAEA),
World Meteorological Organization (WMO),
International Civil Aviation Organization (ICAO), and
International Decade for Natural Disaster Reduction (IDNDR).

5.1 Environmental Emergency Response Framework

Incidents requiring emergency response may be classified as follows:

- A *minor incident* can be controlled and cleaned up readily by the polluter and has little effect on public health and safety, natural resources, the environment, or public property.
- A *moderate incident* generally requires additional resources to effect the clean-up; poses a potentially serious threat to natural resources, the environment, or public property; and can generate public concern.
- A *major incident* requires significant resources to conduct the clean-up (for example a spill that is out of control); can involve international boundaries; can seriously affect natural resources, the environment, or public property; and generates a significant amount of public concern.

The response to an environmental emergency may come from one or more organizations, depending on the source, magnitude, location and type of material spilled. The response and clean-up efforts may escalate from a local response to an international response as described in the progression below:

- *The polluter* can deal with the emergency with its own resources.
- A *local cooperative* may assist in the clean-up of a spill by one of its members, through mutual aid agreements, by combining the entire equipment inventory and expertise of its participants. Alternatively, the polluter could hire a response contractor. In some instances, a local response plan is invoked to assist in the clean-up by combining resources of all agencies identified in the plan.
- *The municipal or provincial government* may become involved to varying degrees, providing assistance and advice to the polluter, through to assuming responsibility for the entire response.
- *The federal government* may become involved to varying degrees, providing assistance and monitoring the response, through to assuming responsibility for the containment and clean-up operation.
- An *international response* effort may be required in cases where spilled materials have the potential to threaten or cross international boundaries.

If the polluter chooses not to initiate clean-up actions or if the situation is of such magnitude that the polluter is unable to respond adequately, government agencies will become involved on behalf of the public to protect the environment.

Depending upon the source of a spill of oil or other hazardous substances, specific government organizations have legislated or traditional responsibility as lead agency to ensure that appropriate clean-up measures are taken and that the environment is protected (see Section 3.0).

The lead agency's role includes:

- monitoring the polluter's actions, ensuring its actions are reasonable under the circumstances;

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- to be the point of contact between the support agencies and the polluter; and
- to appoint an on-scene commander (OSC), to implement all the remedial measures necessary if the polluter is unable or unwilling to undertake a response.

Once the lead agency is identified, it appoints an individual within that organization having overall responsibility for monitoring and/or responding to the incident. However, there are many other agencies or organizations with an interest in the incident (whether by legislation, agreements, or tradition), or with expertise which can assist in dealing with the emergency event. These organizations convene in the Regional Environmental Emergencies Team (REET) to monitor the response to the environmental issues, coordinate environmental advice and assistance and convey the consolidated advice to the polluter through the lead agency; or to the polluter directly if the lead agency contact cannot be established and time is of the essence. This coordination ensures an efficient and effective spill response.

5.2 Environmental Emergency Incident Management

Figure 5.1 illustrates the organization of environmental emergency response advice and support that may be provided to the incident response team. The EC incident manager would, in most cases, be the Regional Environmental Emergency Coordinator, supported by departmental senior management at the national and regional levels. The basic features of national support are discussed in Section 5.4.

The functional composition of an EC environmental emergency incident team may vary from region to region, but teams are generally composed of the following elements: command, public affairs, operations support, countermeasures planning, environmental assessment, and logistics and administration.

The **command section** is responsible for the management of the departmental response, which includes prompt mobilization, effective linkage with other responding agencies and the polluter, and promotion of strategies which limit environmental damage and enhance rehabilitation.

The command section is directed by the EC incident manager (Regional Environmental Emergencies Coordinator). Depending on incident severity, the EC incident manager may be supported by one or more of the following: EC deputy incident manager, enforcement officer, ministerial services officer, safety officer, human resources officer, legal advisor, reporting officer, and recording and archiving officer.

The incident manager is responsible for:

- assessing the severity and implications of the incident;
- invoking the EC regional environmental emergency contingency plan, when appropriate;
- preparing an initial departmental action plan in consultation with the lead agency and members of the Regional Environmental Emergency Team (REET) to deal with the incident, and preparing updates during the course of the incident;
- representing the department in the interagency command structure;

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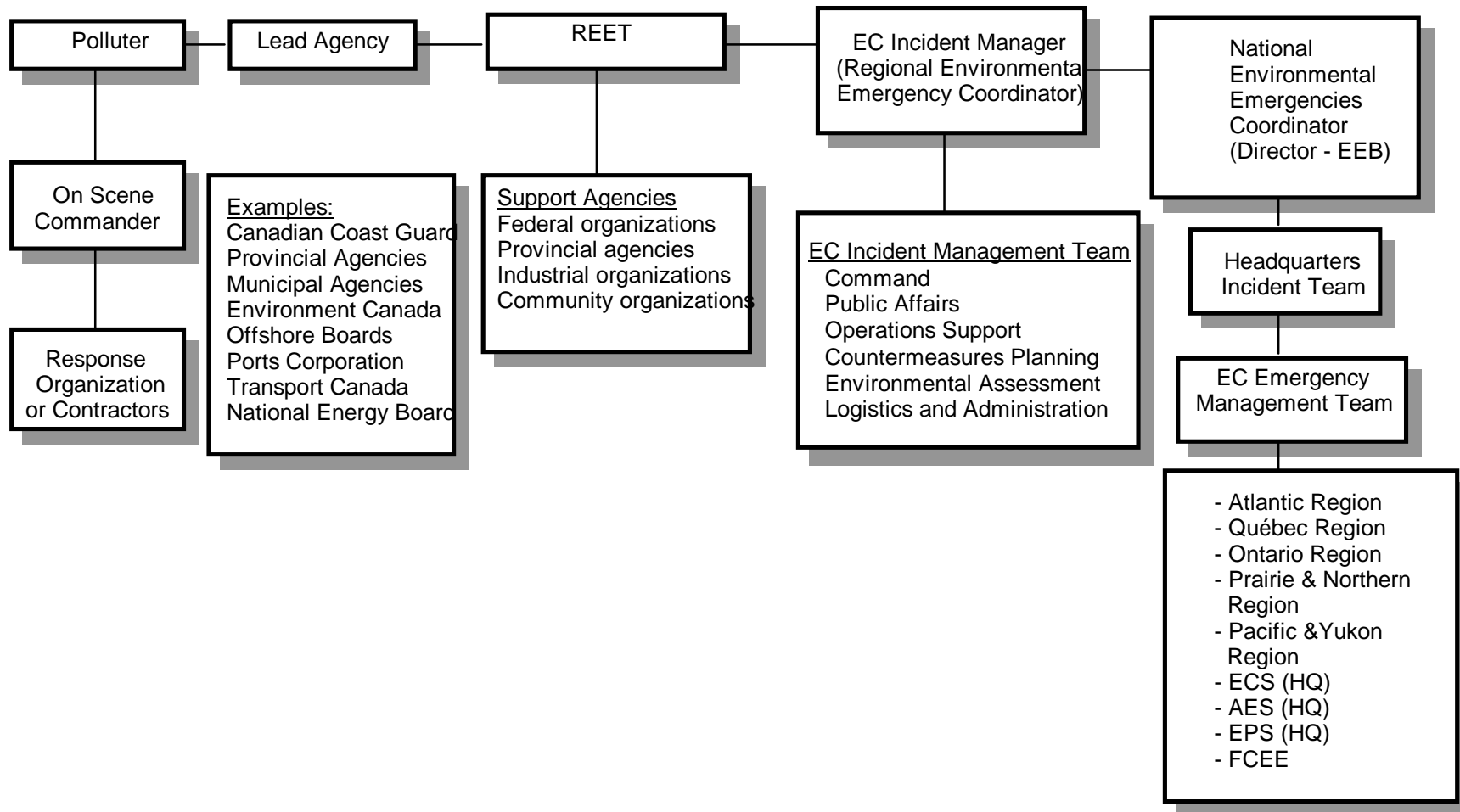


Figure 5.1 National and Regional Pollution Emergency Response Organization

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- chairing/co-chairing the REET;
- coordinating the activities of federal environmental agencies;
- representing the department's jurisdictional responsibilities for migratory birds, pollution provisions of the *Fisheries Act* and CEPA;
- mobilizing elements of the Environment Canada emergency response team;
- conducting legal and technical investigations of the incident;
- meeting regularly with section chiefs of the incident management system;
- maintaining records of all meetings, decisions, other incident documentation;
- regularly briefing senior management, providing status reports, and news releases in consultation with the lead agency;
- arranging logistics and preparing briefing notes during ministerial visits;
- identifying legal issues associated with the incident;
- coordinating the department's initiatives for cost recovery and compensation for environmental damages if required; and
- monitoring and evaluating the overall performance of the EC incident response team.

The **public affairs section** coordinates the preparation, approval and distribution of clear, accurate and timely information to the public and media (either directly or through the lead agency), articulates the role of Environment Canada as effectively and efficiently protecting the environment, and assists EC staff with community or media relations during and after the emergency.

The public affairs section is composed of units dealing with media relations and community relations, and is responsible for:

- assessing the initial incident reports, identifying topics of public sensitivity, key stakeholders and affected groups;
- drawing up communication and media plans in consultation with the lead agency and REET members in response to early situation assessments, and updating these during the incident;
- coordinating and preparing the federal government message when EC is the lead agency;
- preparing the departmental position as input to the federal government message where EC is a support agency;
- facilitating all media enquiries to Environment Canada, and providing timely and accurate incident reports; and
- establishing a centre for all community and media enquiries.

The **operations support section** is responsible for the environmental component of clean-up operations, by ensuring that:

- i) clean-up and restoration operations are environmentally friendly and defensible;
- ii) migratory bird casualties are rescued and quickly transported to rehabilitation centres; and
- iii) the department facilitates decisions on disposal and technology.

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Depending on the Environment Canada role, these may be active functions involving several departmental personnel acting in an operational mode, or these may be advisory functions only. In the operational mode, the operations support section may be composed of a bird rescue and rehabilitation unit, clean-up monitoring unit, disposal unit, and a technology support unit, and is responsible for:

- assessing initial incident reports, identifying significant operational support requirements;
- liaising closely with the operations manager of the responsible party and lead agency, and providing real-time environmental advice to them;
- in collaboration with nature groups, identifying environmental priorities and establishing a bird rehabilitation centre(s);
- advising on shoreline clean-up methods as part of the interagency/industry shoreline clean-up and assessment team (SCAT);
- reviewing disposal issues on site, and facilitating federal approvals; and
- evaluating countermeasures technology being employed and, where appropriate, recommending improvements.

The **countermeasures planning section** comprises functions that link very closely to operations support. Depending on the incident, functions may include:

- i) monitoring the physical environment around the incident;
- ii) predicting the fate and trajectory of the spilled material;
- iii) determining and predicting the behaviour and ultimate fate of the spilled material and its effects upon the environment; and
- iv) reviewing alternative countermeasures and facilitating approvals where appropriate.

The countermeasures planning section may be composed of a fate, effects, and modelling unit; an approvals unit; a meteorology unit; a shoreline clean-up and assessment team (SCAT), and a laboratory unit, and is responsible for:

- assessing initial incident reports, and identifying significant countermeasures issues;
- contributing to the initial departmental action plan;
- identifying the trajectory of pollutant in air and water;
- reviewing proposals for burning and dispersant use and granting approvals as appropriate;
- advising on shoreline clean-up methods as part of the interagency shoreline assessment and clean-up process (EC lead);
- monitoring the effectiveness of shoreline clean-up as part of the SCAT process and the recovery of treated and untreated shorelines;
- providing meteorological and air dispersion/quality information; and
- systematically sampling spilled material from the incident area, including the source, and analyzing the results.

The **environmental assessment section** is responsible for assessing risk and damage to the ecological environment of the incident area. This may comprise the initial examination of sensitivity maps and resource information covering migratory birds and other resources of the

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incident area, the systematic surveying of the area for vulnerable populations of these resources, and the assessment and enumeration of environmental damage. This section may comprise a surveys unit, a resource assessment unit, and a damage assessment unit, and is responsible for:

- assessing initial incident reports, and resource information from the incident area to formulate next steps;
- liaising with other resource management agencies (e.g. Fisheries and Oceans, Canadian Heritage–Parks, National Resources Canada, and the provinces) to coordinate shared functions;
- identifying threatened populations and species in the incident area;
- consulting with First Nations, Indian and Northern Affairs Canada (INAC), and local communities on the identity, distribution, and value of vulnerable resources;
- systematically surveying the area to confirm migratory bird concentrations and consulting with local and national wildlife associations;
- plotting sensitive areas, producing maps and displaying them in appropriate operations centres;
- prioritizing sensitive areas and recommending their protection;
- assessing injury to the environment caused by the oil or chemical discharge;
- advising on the recovery and rehabilitation/restoration of affected environments;
- preparing a detailed damage assessment of the incident in association with other agencies; and
- identifying all documented losses for later compensation.

The **logistics and administration section** provides facilities, services, material, administrative and financial support to the departmental environmental emergencies team in those situations when it is mobilized. It helps develop the initial departmental action plan, and is critical to its successful implementation. The section may comprise a transportation unit, a procurement unit, a communications unit, a facilities and catering unit, and a cost compilation and recovery unit, and is responsible for:

- assessing initial incident reports, and identifying solutions to anticipated logistical problems;
- contributing to the initial departmental action plan, and its regular updating;
- liaising with other responding agencies to coordinate shared logistics requirements;
- ensuring facilities (main operations centre and mobile field centres) are quickly adapted to emergency mode and maintained as such for the incident duration;
- ensuring appropriate accommodation and catering;
- coordinating air, water, and ground transportation needs in consultation with other agencies;
- requesting logistical assistance of First Nations, INAC and local communities;
- facilitating the procurement of needed supplies and services;
- ensuring communications equipment is deployed, operational, and maintained to meet emergency response needs; and

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- coordinating the systematic compilation of costs associated with personnel time, service contracts, and other incident-related expenses.

Appendix C provides general guidelines for mobilization of the departmental emergency response teams and safety procedures.

5.3 Regional Environmental Emergency Teams

5.3.1 Rationale

During response to a major incident, the polluter and the lead government agency must rely on technical and scientific information and knowledge to minimize adverse environmental impacts.

To facilitate the flow of information and decision-making, the complex and sometimes conflicting advice from various experts must be assessed, consolidated, and a consensus position developed. This is accomplished through the Regional Environmental Emergency Team (REET).

5.3.2 Team Composition

The REET is a group of experts in the field of resource protection and emergency response. The team members represent agencies and groups which are responsible for, or have interest or stake in resource management and protection. These groups may include response agencies, all levels of government, First Nations, local communities, industries, and academic institutions. A generic REET organization is shown in Figure 5.2.

The REET is generally chaired by a representative from Environment Canada's regional office, usually the regional environmental emergency coordinator. In some instances, the REET may be co-chaired or chaired by the provincial or territorial government or by an individual mutually acceptable to all group members.

5.3.3 Incident Role

During incident response, the REET is responsible for ensuring that resource and sensitivity information related to the incident is collected quickly and accurately. With this information and the professional background of its members, the team is able to provide advice on a number of issues — particularly environmental priorities, resources at risk and most appropriate clean-up countermeasures. This advice is conveyed to the polluter through the lead agency or to the polluter directly if the lead agency contact cannot be established and time is of the essence.

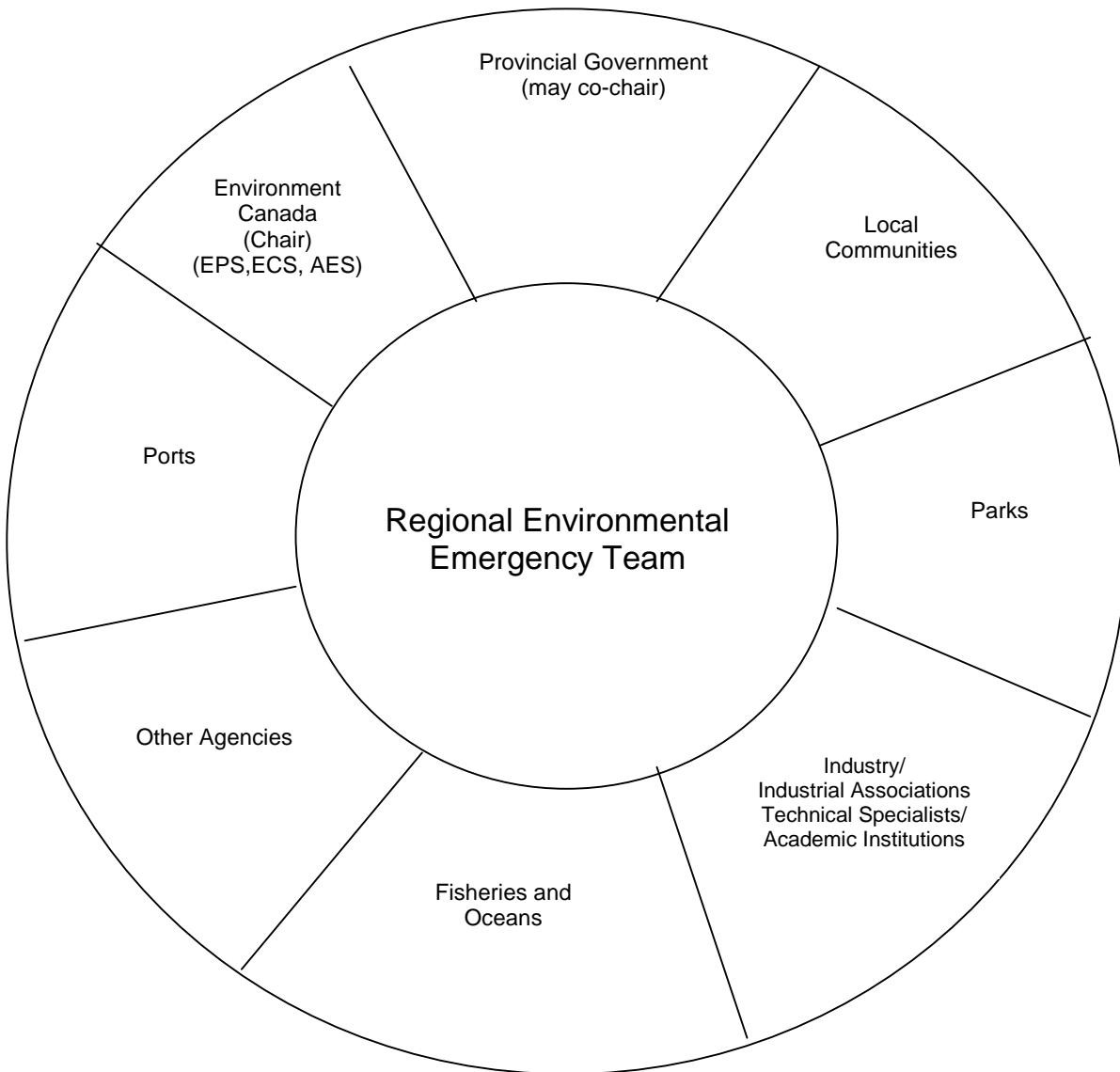


Figure 5.2 Generic Regional Environmental Emergency Team (REET) Organization

5.3.4 REET Capabilities

REET functions can cover many aspects of environmental emergency prevention, preparedness and response, and can be categorized into three broad groupings, as described below.

Environmental advice:

- spill clean-up priorities;
- spill containment and recovery strategies;
- assistance in the identification of the potential source(s) of the spill and the spill's trajectory;
- acceptability of dispersants and approval for use;
- approval for in-situ burning;
- spill behaviour and spill movement modelling using the latest generation models and techniques;
- advice and direct support regarding state-of-the-art, on-site monitoring of human and environmental hazard levels at pollution emergencies;
- waste disposal and storage;
- wildlife and fisheries protection and rehabilitation strategies;
- assessment of environmental damages;
- evacuation, population protection, and search and rescue strategies;
- impacts from natural hazards;
- advice and on-site support involving set-up and operation of equipment for sampling pollutants in ambient air; and
- ambient air quality data interpretation and assessment of impacts of pollutants measured.

Spill-response planning:

- provision of sensitivity maps and information on environmentally sensitive resources;
- provision of training and education to industry, government and the public on shoreline clean-up;
- guidance on contingency planning for government and private-sector facilities;
- participation in industry and regional spill-response exercises to test contingency plans; and
- guidance on environmental hazards along transportation and shipping routes.

Spill-response operations:

- spill sampling;
- monitoring of environmental impact on wildlife and fisheries;

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- marine spill surveillance;
- spill dispersion modelling (water and air);
- atmospheric and hydrologic (including ice and sea-state) data, and weather forecasts;
- arrangements for specialized hazard-level monitoring team for major incidents to advise on evacuation and re-entry;
- evaluation of clean-up activities;
- assessment of environmental damages; and
- issuing public information, advisories and warnings.

5.4 National Support Functions

5.4.1 Headquarters Incident Team

The Headquarters Incident Team is normally led by the Director of the Environmental Emergencies Branch, acting as the National Environmental Emergency Coordinator. This team is closely linked to and supports regional operations in response to an incident. Following an environmental emergency incident of national or potentially national significance, the goal of the Headquarters Incident Team is to activate/notify, mobilize, and coordinate the professional, scientific, technical, and other resources of Environment Canada (EC) in support of the response. These activities are carried out in accordance with the need for the protection of life, property, and the environment; and with due regard to the broader social, economic and political consequences of the incident.

The Headquarters Incident Team accomplishes this goal by:

- alerting all potential stakeholders, including senior management (DM, ADM, DG), key services within EC (AES, ECS, EPS), and other federal agencies as the situation requires;
- collecting, organizing, and disseminating accurate, factual information about the incident on a timely basis throughout the response;
- establishing and maintaining/operating a departmental command centre (NEEC) to serve as the focal point of the department's response and communications for the duration of the incident;
- forming and staffing an EC Emergency Management Team with clearly identified roles and responsibilities to manage, coordinate, and direct the department's response efforts and resources at the national level in accordance with the requirements of the incident;
- implementing a response management process for planning, documenting, and funding the department's response as efficiently, and effectively as possible;

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- accessing and providing appropriate EC scientific, technical, and professional support to the responding region or response management team dealing directly with the incident; and
- informing senior EC management and the Minister regarding the progress of the incident and associated response efforts, activities or risks.

At the conclusion of the incident, the Headquarters Incident Team may undertake the following activities:

- coordinating and assisting with the completion of a thorough, objective assessment of the department's overall response, to identify key lessons learned and ways to improve the department's response to future incidents; and
- preparing and maintaining an "archive" of past national environmental emergencies as a reference for future responders.

5.4.2 Federal Committee for Environmental Emergencies

The Federal Committee for Environmental Emergencies (FCEE) is the federal coordinating body responsible for the mobilization of government-wide assets and integration of interagency arrangements. It is co-chaired by Environment Canada and Fisheries and Oceans Canada (CCG) during normal operations. The FCEE may be mobilized by any lead department to act as the federal support team (to the lead department) in the event of an environmental emergency of national or international significance. When the FCEE is mobilized, the lead department assumes the chair of the Committee, unless it wishes to delegate that responsibility.

The Committee is useful:

- i) in providing a forum at the national level within which federal government departments may coordinate their respective environmental emergency planning and preparedness activities, and establish mutually compatible, consistent and effective emergency response arrangements; and
- ii) in serving as a potential forum for the interdepartmental consideration of incident management strategies and priorities; and
- iii) for the coordination of federal emergency operations in support of the lead department in actual environmental emergencies.

TRANSBOUNDARY POLLUTION INCIDENTS

This section deals with transboundary pollution incidents involving both Canada and the United States. Joint Canada-United States action in dealing with transboundary pollution incidents is covered at the national level by two contingency plans. These plans also cover incidents which only affect the waters or territory of one party, but are of such a magnitude to justify a call on the other party for assistance.

The *Canada-United States Joint Marine Pollution Contingency Plan* for Spills of Oil and Other Noxious Substances covers the response to pollution incidents affecting or threatening the waters or coastal areas of both parties. There are five regional annexes to this plan. The Canadian Coast Guard (CCG) is the lead agency for Canada.

The *Canada-United States Joint Inland Pollution Contingency Plan* covers pollution incidents along the shared inland boundaries of both countries. It also has five regional annexes. Under this plan, Environment Canada is the lead agency for Canada.

The purpose of these plans is to establish a coordinated and integrated federal response through support and assistance to the provincial, territorial, regional, state, and/or subregional plans of both countries. Emergency contacts for reporting spills crossing the Canada/U.S. boundary are contained in the joint plans and regional emergency plans.

Under both plans, the emergency response teams function primarily in an advisory and support role to the federal on-scene commander/coordinator (OSC). There is a provision for the federal OSC to assume command of the polluting incident. This will occur if the incident is beyond the capabilities of the local, state, territory, or provincial incident commander, or if requested.

Appendix D contains details with regard to the regional annexes of the joint plans.

6.1 Departmental Response Functions In Transboundary Spills

Many of these functions are described in Section 5.0. Specifically for transboundary spills, these functions include:

- providing advice and assistance to the federal on-scene commander/coordinator (OSC) during polluting incidents;
- monitoring incoming reports, actions and plans of the federal OSC, and reviewing the possible impact of reported polluting incidents;
- coordinating the actions of the various agencies in supplying the necessary resources and assistance to the federal OSC;
- recruiting other federal agencies, and industrial or scientific groups to contribute appropriate functions in support of joint response teams or the federal OSC;
- ensuring that the federal OSC has adequate public information support;
- providing appropriate coordination and liaison functions at the scene of the polluting incident;

- reviewing actions of the federal OSC and making appropriate recommendations for additional measures;
- recommending means to facilitate response coordination among various agencies; and
- promoting efficient communications to ensure effective information flow.

TRAINING AND EXERCISING

The *National Environmental Emergencies Contingency Plan* is dependent in part on a training and exercising program implemented at a level of frequency necessary to maintain the effectiveness of the plan, and the readiness of its environmental emergencies teams.

The training and exercising must include programs to produce familiarity with the assigned duties of personnel, exercises to verify procedures, training courses on response techniques and emergency management.

7.1 Training

The primary component of the training program is in-house training and exercising focussed on the duties and responsibilities of an Environment Canada (EC) environmental emergencies team.

The responsibility for ensuring environmental emergencies personnel have sufficient training lies with the designated managers of the regionally based environmental emergencies teams.

All response personnel should receive basic spill response training. They should also receive other applicable training, such as St. John's Ambulance first aid, field sampling and analysis, personal protective equipment, dealing with the media, workplace hazardous materials information system, transportation of dangerous goods, and shoreline clean-up and assessment.

Environmental emergency team personnel should also participate in technical workshops concerned with the shoreline assessment clean-up team (SCAT) process, emergency site management, emergency preparedness courses provided by Emergency Preparedness Canada or provincial emergency measures organizations, wildlife rehabilitation, traditional and specialized countermeasures techniques, or other appropriate topics. Many specialized courses are available through private institutions to ensure that personnel are prepared to conduct a safe and effective response operation.

7.2 Exercising

Exercises allow EC environmental emergencies staff to practice both individual and team duties and skills, and therefore support the viability of both the National Plan and various regional plans.

The purpose of the exercises is to:

- validate the contingency plan;
- confirm the effectiveness of response training;
- practice response techniques and procedures;
- develop improvements in response procedures; and
- introduce new concepts for future exercises.

The target for departmental participation is about four exercises per year. This includes participation in exercises held in the regions and at headquarters, led by the department, other government agencies, or industry.

The main reference for the program is the Canadian Coast Guard's *Exercise Planning & Evaluation Guide*, 1994.

7.3 Documentation

Attendance at courses, workshops and exercises by EC environmental emergencies personnel should be tracked and recorded. Certificates are to be retained at the appropriate national or regional office.

A review of the training programs attended by all environmental emergencies team personnel should be undertaken on annual basis.

APPENDICES

- A. Environmental Emergencies Agreements and Memoranda of Understanding**
- B. Resource Documents**
- C. General Instructions and Safety Procedures for Emergency Response Teams**
- D. Canada-United States Joint Regional Plans**
- E. Acronyms List**

APPENDIX A:

ENVIRONMENTAL EMERGENCIES AGREEMENTS AND MEMORANDA OF UNDERSTANDING

An emergency management system comprises three main elements: prevention, preparedness, and response related to pollution emergencies and natural hazards.

The management of environmental emergencies is a multi-jurisdictional/multi-agency responsibility which may involve local, municipal, provincial, territorial, federal and international jurisdictions, as well as the industrial sector. Several provincial/territorial and federal government departments or agencies have legislated mandates and are responsible for specific functions of an emergencies management system.

The National Plan respects the cooperative aspects of existing emergency contingency plans and agreements which are listed as follows:

International

Arctic Environmental Protection Strategy

Canada/USSR Agreement (1989)

⇒ Re: Arctic marine pollution.

Canada/United States Joint Marine Pollution Contingency Plan (1986–under revision)

Canada/United States Agreement on Mutual Assistance in the Event of a Nuclear Emergency (1997)

Canada/United States Agreement on Comprehensive Cooperation in Civil Emergency Planning and Management (1986)

Canada/United States Joint Inland Pollution Contingency Plan (1994)

Canada/Denmark Agreement (1983)

⇒ Re: marine oil spills.

Environmental Technology Centre/U.S. Coast Guard science and technology cooperation agreement

UNECE Convention on the Transboundary Effects of Industrial Accidents

International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC '90)

International Labour Office Convention Concerning the Prevention of Major Industrial Accidents

Memorandum of Understanding between the United States Department of the Interior, Mineral Management Service, and Environment Canada, Environmental Protection Service, Concerning Technology Assessment and Research on Oil Spill Prevention and Response Technology

Memorandum of Understanding between Environment Canada, and the Environmental Protection Agency, United States of America, Concerning Research and Development Cooperation in Science and Technology

International Maritimes Organization (IMO) – International Oil Pollution Fund/Civil Liability Convention

International Maritimes Organization (IMO) – Hazardous and Noxious Substances (HNS) Convention

Multilateral

Federal Policy for Emergencies (1995)

⇒ Outlines roles and responsibilities of federal departments and agencies including Environment Canada, regarding emergencies.

Government of Canada, Cabinet Record of Decision, 1175-73RD (1973)

⇒ Clarifies the roles and responsibilities of Environment Canada with respect to environmental emergencies.

Canadian Council of Ministers of the Environment (CCME), Memorandum of Understanding for Environmental Emergencies (1990)

⇒ Re: notification and mutual assistance.

Environment Canada/Fisheries and Oceans Letter of Agreement on Mystery Spills (1996)

Environment Canada/Fisheries and Oceans Regional Working Agreement for Administration of Section 33 of the *Fisheries Act* in B.C. and Yukon

Environment Canada/National Defence Memorandum of Understanding (1994)

⇒ Re: emergency response assistance.

Government Strategy for Major Pollution Incidents in the Arctic Seas Region

⇒ For offshore marine waters.

Environment Canada/Fisheries and Oceans Regional Working Agreement for Administration of Section 33 of the *Fisheries Act* for the Atlantic Provinces

Fish Kill Response Procedures for the Atlantic Provinces

Atlantic Regional Environmental Emergency Team Contingency Plan for Spills of Oil and Other Hazardous Materials

Atlantic Canada Master Agreement

⇒ Federal/Provincial Framework Agreement for Environmental Cooperation in Atlantic Canada (94.05.31 - 99.03.31). Key areas for negotiation of annexes include: Public Awareness; Wastes, State of the Environment Reporting; Research; Water Program; Environmental Assessment; Laboratories; Compliance; Monitoring; Data and Information Management System; Coastal Zone Management and Emergency Response.

Bilateral

Memorandum of Understanding between Transport Canada and Environment Canada (1975)

⇒ Re: spills of hazardous substances.

Memorandum of Understanding between Transport Canada and Environment Canada concerning the implementation and administration of the Transportation of Dangerous Goods Programme (January 24, 1986)

Memorandum of Understanding between Transport Canada and Environment Canada on compliance (April 1995)

Memorandum of Understanding between Fisheries and Oceans and Environment Canada (1993)

⇒ Re: the administration of the *Fisheries Act*.

Memorandum of Understanding between Canadian Heritage and Environment Canada (1994).

⇒ Re: spills of hazardous substances in national parks.

Working Agreement on the Response of Government & Regulatory Agencies to Spills in the Northwest Territories (1992)

⇒ Re: inland spills.

Memorandum of Understanding on Emergency Planning between the Federal Government and the Northwest Territories (May 18, 1983)

Canada/Northwest Territories Agreement Respecting Administration of the *Transportation of Dangerous Goods Act* (March 1996)

Canada/Northwest Territories Framework Agreement for Environmental Cooperation in the Northwest Territories, (96.11.15 - 99.03.31)

⇒ Covers spill response; compliance; monitoring; data/information management; investigations; information-sharing; discharge of contaminant; labs; research; public awareness; emergencies prevention, preparedness and response; and publications.

Letter of Understanding Concerning Government Response to Spills in the Yukon

⇒ For inland spills.

Memorandum of Understanding on Emergency Planning between the Federal Government and the Government of the Yukon Territory (March 11, 1983)

Canada/British Columbia Understanding Concerning Federal/Provincial Responsibilities in Oil and Hazardous Materials Spills (1981)

Letter of Intent between Environment Canada and British Columbia Ministry of Environment, Lands and Parks, Regarding Oiled Birds Rescue and Rehabilitation

Memorandum of Understanding on Emergency Planning between the Federal Government and the Provincial Government of British Columbia (April 13, 1988)

Canada/Alberta Agreement Respecting Administration of the *Transportation of Dangerous Goods Act* (August, 1994)

Canada/Saskatchewan Emergency Planning Memorandum of Understanding (January 17, 1985)

Canada/Saskatchewan Agreement Respecting Administration of the *Transportation of Dangerous Goods Act* (September 1997)

Canada/Manitoba Environmental Accident Response Agreement (1985)

Canada/Manitoba Agreement Respecting Administration of the *Transportation of Dangerous Goods Act* (June 1996)

Memorandum of Understanding on Emergency Planning between the Federal Government and the Provincial Government of Manitoba (August 5, 1983)

Canada/Ontario Agreement on prevention and response programs to help reduce overlaps, develop partnerships for prevention activities and provide a single window for the reporting of spills of hazardous substances (to be evaluated during 1998-99)

Memorandum of Understanding on Emergency Planning between the Government of Canada and the Government of Ontario (February 19, 1985)

La Gestion de la Réponse aux Situations d'Urgence et de Sinistres Selon les Juridictions (July 1997)

⇒ In Quebec Region, the REET approach for federal/provincial cooperation is part of the Sécurité Civile document on joint operation with the federal government.

Memorandum of Understanding on Emergency Planning between the Federal Government and the Provincial Government of New Brunswick (October 21, 1982)

Canada/New Brunswick Agreement Respecting Administration of the *Transportation of Dangerous Goods Act* (September, 1996)

Oil and Chemical Spills/Saint John Harbour

Canada/Nova Scotia Agreement Respecting Administration of the *Transportation of Dangerous Goods Act* (June 1994)

Memorandum of Understanding on Emergency Planning Between the Federal Government and the Provincial Government of Nova Scotia (January 8, 1986)

Canada/Nova Scotia Accord on Environmental Cooperation

Canada/Prince Edward Island Agreement Respecting Administration of the *Transportation of Dangerous Goods Act* (January 1996)

Memorandum of Understanding on Emergency Planning between the Federal Government and the Government of Prince Edward Island (June 21, 1984)

Interim Agreement between Ports Canada, Canadian Coast Guard, Environment Canada and Nova Scotia Department of the Environment for Response to Oil Spills in Halifax Harbour (1984)

⇒ Similar agreements are in place for Saint John and St. John's harbours (1983).

Memorandum of Understanding among the Canada/Newfoundland Offshore Petroleum Board, Environment Canada, the Department of Energy, Mines and Resources, the Newfoundland and Labrador Department of the Environment and Lands, the Newfoundland and Labrador Department of Energy, and the Newfoundland and Labrador Intergovernmental Affairs Secretariat Concerning the Provision of Environmental Services in the Newfoundland Offshore Area.

Memorandum of Understanding Re: Canada-Nova Scotia Offshore Petroleum Board and Environment Canada (1999)

Canada/Newfoundland and Labrador Agreement Respecting Administration of the *Transportation of Dangerous Goods Act* (March 1998)

Memorandum of Understanding on Emergency Planning between the Federal Government and the Provincial Government of Newfoundland (March 5, 1986)

Federal/Provincial Administrative and Equivalency Agreements under CEPA and the *Fisheries Act* (FA)

⇒ Re: Environmental Emergencies:

- **Yukon Territory** (CEPA): Environmental Protection Agreement (May 1995)
- **British Columbia** (CEPA, FA and B.C. *Waste Management Act*): Agreement on the administration of federal and provincial legislation for the control of liquid effluents from pulp and paper mills in the province of British Columbia (September 1994)
- **Alberta** (FA): Administrative Agreement for the Control of Deleterious Substances under the *Fisheries Act* (June 1994)
- **Alberta** (CEPA): An Agreement on the Equivalency of Federal and Alberta Regulations for the Control of Toxic substances in Alberta (June 1994)
- **Saskatchewan** (CEPA): Administrative Agreement for the *Canadian Environmental Protection Act* (September 1994)

- **Saskatchewan** (FA): Administrative Agreement for the Control of Deposits of Deleterious Substances under the *Fisheries Act* (September 1994)
- **Quebec** (Pulp and Paper): Agreement in the Context of the application in Quebec of Federal Pulp and Paper Mill Regulations (December 1997)
- **Nova Scotia** (CEPA-MOU): PCB Storage Regulations (October 1992)
- **Newfoundland** (CEPA-MOU): PCB Storage Regulations (October 1992)

APPENDIX B: RESOURCE DOCUMENTS

- Environment Canada, Environmental Emergencies Program, *Summary of Spill Events in Canada*, (1984-95), 1998.
- Environment Canada, *Summary of Spill Events in Canada* (1973-83), 1987.
- Environment Canada, Environmental Emergencies Branch, National Programs, *Standard Operating Procedures for Environment Canada Environmental Emergency Officers*, 1994.
- Environment Canada, Environmental Emergencies Branch. *Environmental Emergency Book*, 1993.
- Environment Canada, Environmental Emergencies Branch, *Consolidation of Canadian Spill Reporting Provisions*, 1992.
- Environment Canada, *Operational Plan for the Arctic Regional Environmental Emergency Team (AREET)*.
- Environment Canada, Regional Environmental Emergency Team–Atlantic Region, *Contingency Plan for Spills of Oil and Other Hazardous Materials*, 1998.
- Environment Canada, *Procedures for Collecting and Handling Legal Evidence*.
- Environment Canada, *Guidelines for Spill Dispersants*.
- Environment Canada, *Spill Reporting Forms*.
- Environment Canada, Atmospheric Environment Service, *National Public Weather Program*, 1998.
- Canadian Coast Guard, *National Marine Spills Contingency Plan*, 1998.
- Canadian Coast Guard, *Exercise Planning & Evaluation Guide*, 1994.
- Emergency Preparedness Canada, *Departmental Planning Responsibilities for Emergency Preparedness*, 1995.
- Canada-United States Joint Inland Pollution Contingency Plan*, 1994.
- Canada-United States Joint Marine Pollution Contingency Plan*, 1986.

APPENDIX C:

GENERAL INSTRUCTIONS AND SAFETY PROCEDURES FOR EMERGENCY RESPONSE TEAMS

General Instructions

General instructions are recommended for all members of departmental emergency response teams, to facilitate mobilization to emergency mode and successful fulfillment of duties.

- Planning:
- Have basic field gear, emergency response documents, and personal effects packed and ready for prompt mobilization to the field.
 - Ensure inventory of safety equipment matched to various contingencies.
 - Be thoroughly familiar with the regional environmental emergencies contingency plan through training and exercises.
- Response:
- Report to immediate supervisor, i.e. unit leaders -> section chiefs and deputy incident manager -> incident manager -> regional senior management -> departmental senior management.
 - Consult checklist of duties in plan.
 - Obtain briefing of situation.
 - Ensure personnel are assigned to continue normal departmental operations and responsibilities.
 - Arrange personal/home matters.
 - Add any appropriate safety gear, response equipment, or field forms before departing for the incident area.
 - Determine field rendez-vous, means of transportation, and accommodation on site.
 - Report to field station, record arrival, and obtain situation update from supervisor.
 - Obtain all required approvals (e.g. handling wildlife, operating in remote areas).
 - Ensure safety requirements and procedures are met.
 - Maintain personal log of activities, expenses and hours worked.

Safety Procedures for Emergency Response Teams

Response to hazardous substance spills can involve risk to personnel, and frequently takes place in surroundings unfamiliar to responders. The following safety requirements are recommended for all members of departmental incident response teams.

- Planning:** Field teams, particularly those designated for remote area deployment, should include one member with first-aid training. A stress management plan relating to occupational stress for employees working long hours in difficult circumstances should be developed.
- Response:** Supervisors should be aware at all times of the location and activities of all their staff.
- Identify location of local hospitals and treatment centres.
 - Know the nature of hazard and the use of response equipment.
 - Response activities should be restricted to those which have been approved and assigned.
 - All responders should be qualified and trained for their assignments.
 - Site safety should be regularly evaluated and confirmed before continuing operations.
 - At each site there should be at least two members with fully functional communications equipment so that assistance can be provided and rescue facilitated.
 - The location of qualified first-aid personnel and medical attendants should be known to all team members and be readily accessible.
 - Confirm safety equipment and procedures in all vessels and aircraft under charter.
 - Supervisors should ensure response procedures under their direction pose no threat to others.

APPENDIX D: CANADA-UNITED STATES JOINT REGIONAL PLANS

Canada-United States Joint Inland Pollution Contingency Plan

- Annex One CANUSWEST covers the shared border of the Yukon Territory and British Columbia with Washington, Idaho, Montana, and Alaska (U.S. EPA Regions 8 and 10).
- Annex Two CANUSPLAIN covers the shared border of Alberta, Saskatchewan, and Manitoba with Montana, North Dakota, and Minnesota (U.S. EPA Regions 5 and 8).
- Annex Three CANUSCENT covers the shared border of Ontario with Minnesota and New York (U.S. EPA Regions 2 and 5).
- Annex Four CANUSQUE covers the shared border of Quebec with New York, Vermont, New Hampshire, and Maine (U.S. EPA Regions 1 and 2).
- Annex Five CANUSEAST covers the border of New Brunswick with Maine (U.S. EPA Region 1).

Canada-United States Joint Marine Contingency Plan

- Annex One CANUSLAK covers the internal waters of each party on the Great Lakes.
- Annex Two CANUSLANT covers Atlantic waters under the national jurisdiction of each party, and seaward in the Gulf of Maine to lat. 40°27'05"N, long. 65°41'59"W.
- Annex Three CANUSPAC covers the marine boundary waters of each party between British Columbia and the State of Washington.
- Annex Four CANUSNORTH covers the Beaufort Sea waters of each party between the State of Alaska and the Yukon Territory seaward to the limit of fishery management and natural resource exploitation of the continental shelf.
- Annex Five CANUSDIX (Dixon Entrance) covers the marine boundary waters of each party between British Columbia and the State of Alaska.

APPENDIX E: ACRONYMS LIST

AAQD	Analysis and Air Quality Division
ADM	Assistant Deputy Minister
AECB	Atomic Energy Control Board
AES	Atmospheric Environment Service
CCG	Canadian Coast Guard
CCME	Canadian Council of Ministers of the Environment
CEPA	Canadian Environmental Protection Act
CMC	Canadian Meteorological Centre
CWS	Canadian Wildlife Service
DFO	Department of Fisheries and Oceans
DND	Department of National Defence
EC	Environment Canada
ECS	Environmental Conservation Service
EEB	Environmental Emergencies Branch
EEO	Environmental Emergencies Officer
EETO	Emergencies Engineering Technologies Office
EPA	(United States) Environmental Protection Agency
EPS	Environmental Protection Service
ESD	Emergencies Science Division
ETC	Environmental Technology Centre
FCEE	Federal Committee for Environmental Emergencies
FNEP	Federal Nuclear Emergency Plan
GTS	Global Telecommunications System
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organization
ICS	Incident Command System
IDNDR	International Decade for Natural Disaster Reduction
INAC	Indian and Northern Affairs Canada
NEEC	National Environmental Emergencies Centre
NEES	National Environmental Emergencies System
NESP	National Earthquake Support Plan
NLET	National Laboratory for Environmental Testing
NRCan	Natural Resources Canada
NWRI	National Water Research Institute
OGD	Other Government Department
OSC	On-Scene Coordinator/Commander
PIR	Pollution Incident Report
REET	Regional Emergency Response Team
RO	Response Organization
RSMC	Regional Specialized Meteorological Centre
SCAT	Shoreline Clean-up and Assessment Team
SOP	Standard Operating Procedure
SPM	Single Point Mooring
TDG	Transportation of Dangerous Goods
WMO	World Meteorological Organization

