



Environment Canada    Environnement Canada  
Atlantic Region        Région de l'Atlantique

ENVIRONMENT CANADA LIBRARY  
15th Floor, Q 2nd Square  
45 Alderney Drive  
Dartmouth, N.S. B2Y 2N6  
CANADA

## Information Bulletin

# The Role of Industry in Emergency Response

*A discussion of the roles and responsibilities of  
industry in oil spill response.*

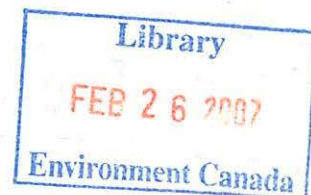
Environment Canada - Environnement Canada

Emergency response

CANADA. ENVIRONMENT CANADA. ATLANTIC REGION

TD 427.P4 E435 1996  
NSDE

00154287



Canada

Environment Canada - 25 Years of  
Environmental Achievement



Environnement Canada -  
25 années de réussites environnementales

September 1996

Environment Canada  
Environmental Emergencies Section  
45 Alderney Drive  
Dartmouth, Nova Scotia  
Canada  
B2Y 2N6

Catalogue Number En40-229/6-1996E  
ISBN 0-660-16617-8



This booklet was printed on paper containing recycled fibers.



Environmental Emergencies Section  
Atlantic Region

## INTRODUCTION

Tanker trucks roll over, pipes and valves leak, ships run aground, and storage tanks rupture. Oil enters the environment in a variety of ways, many of which are the result of accidents that occur in the transport or handling of crude oil and its derivatives. When incidents such as these occur, it is the role of government to enforce and monitor response activities, while the role of industry is to initiate action to counteract the emergency, and to pay for any damages and cleanup costs. Environment Canada is specifically mandated to provide technical advice and assistance to the polluter in an emergency situation. In the event that the environment is not being adequately protected, Environment Canada staff may assume responsibility for a clean up, within the limits of its legislative mandate, and arrange for and/or supervise cleanup operations.

To develop and enhance its oil spill response capabilities, industry has undertaken a number of initiatives. Through cooperative approaches and shared responsibilities, it has expanded the scope of its response organizations, and in so doing, has significantly increased its ability to respond effectively to spills in both the marine and land environments.

## INDUSTRY RESPONSE TO MARINE SPILLS

### Background

The report of the Public Review Panel on Tanker Safety and Marine Spills (the Brander-Smith Report), released in 1990, together with internal reviews by the

Government of Canada and a number of independent studies, made it clear that Canada's ability to respond to oil spills of significant size was deficient. With this in mind, the panel recommended that the oil industry increase its response capacity at a regional level to the point where it could address spills of up to 10,000 tonnes, and augment its capacity to effectively manage spill response.

In 1990, the Canadian Petroleum Products Institute (CPPI) responded to and endorsed a number of the recommendations of the Public Review Panel. One of the key commitments was an agreement to try to develop and implement a national program to protect the marine environment. This would include all sectors and industries which might spill oil in the course of their activities.

The intent of this initiative was to complement the recognized roles of agencies such as the Coast Guard and other marine and environmental authorities.

Because non-members of CPPI are responsible for about 50% of the oil transported in Canadian waters, it was necessary to encourage their support to ensure a comprehensive response capability. Examples of non-member industries involved in oil related activities include utilities, large industries, private oil companies, shippers and handlers.

### Legislated Requirements

In 1991, the Government of Canada, in its response to the Brander-Smith Report, made a commitment to improve Canada's capability to respond to spills of up to 10,000 tonnes, and to accomplish this through an organization funded and operated by the private sector. To implement the arrangement with the private sector, the Canada Shipping



Act (CSA) was amended in 1993. The amendment requires all tankers of 150 tonnes or greater, and dry cargo vessels of 400 tonnes or greater entering Canadian waters to have an arrangement with a certified Response Organization (RO), to ensure an adequate response to an oil spill of up to 10,000 tonnes into the marine environment. Oil handling facilities (sites where bulk storage tanks are located) must have similar arrangements in place.

The intent of the CSA amendments was to introduce a system of response in which:

Vessels and designated oil handling facilities would be required to prepare Oil Pollution Emergency Plans (OPEPs) detailing arrangements for responding to oil spills

Spill response resources available under the above arrangements would be funded by the private sector; and

The federal government would oversee private sector spill response efforts, and assume direct operational control only if the situation warranted it.

In 1995, the role and responsibilities of the Response Organizations (ROs) were further outlined in the "Response Organizations and Oil Handling Facilities Regulations" of the Canada Shipping Act. These regulations call for the ROs to develop response plans to demonstrate their ability to deal with oil spills. In addition to stipulating the required contents of the plans, the regulations also outline the procedures to be followed and the equipment and resources to be used by the ROs in the event of a spill.

To enable the ROs to comply with the requirements of the regulations, and to facilitate certification, standards for Response Organization Response Plans were

developed addressing:

- the management of spill response
- the geographic areas of response
- the response time
- equipment and personnel
- the submission, review and approval of response plans

### **The Management of Spill Response**

By law, each RO must have a Response Plan detailing the organizational structure that it has established to ensure an effective and rapid response to a marine oil spill. This aspect of the plan must address such factors as mobilization of resources, transportation of equipment, environmental protection and appropriate cleanup and disposal. The Plan also has to indicate how the RO will manage the spill, as well as coordinate its management operations with those of other agencies that may be involved.

### **Geographic Areas of Response**

Geographic areas of response are those with a higher risk of oil spills due to the amount of shipping; the volumes of oil moved; the environmental sensitivity and other factors. Each of these areas includes a designated port in which the response organization is located.

The designated ports in the Atlantic region are located in Holyrood and Come-by-Chance, Newfoundland; Point Tupper and Halifax, Nova Scotia and Saint John, New Brunswick.

Since both the Cabot Strait and the

Northumberland Strait experience a high volume of shipping in relatively confined waters, they are considered to be potentially more at risk and require special consideration (these areas are designated as Enhanced Areas of Response). As a result, although there is not a designated port, these areas are covered by the Response Organizations in the regions where they are located.

### **Response Time**

The effective cleanup of an oil spill depends on a number of factors, one of the most critical of which is time. To ensure efficiency of response, a tiered approach is employed. This approach takes into account the time needed to deploy increasing amounts of resources to the scene of a spill, if the situation warrants it.

Tier 1: Full on-scene capability within 6 hrs of notification (for spills to 150 tonnes).

Tier 2: Full on-scene capability within 12 hrs of notification (for spills to 1000 tonnes).

Tier 3: Full on-scene capability within 18 (spills to 2500 tonnes).

Tier 4: Full on-scene capability within 72 hrs (spills to 10,000 tonnes).

### **Equipment and Personnel**

To obtain certification, the ROs must have sufficient response and support equipment to be able to complete the recovery operation in ten days.

The RO must also demonstrate that in addition to having sufficient oil recovery capability, each oil recovery unit has enough storage capacity to continuously recover oil

for a period of 24 hours. Enough temporary storage must be available to store twice the amount of oil recovered by all the recovery units operating over a 24 hour period.

When cleaning shorelines, the RO has to be able to treat at least 500 m of shoreline per day.

Because the effectiveness of oil spill response operations is so dependent on the abilities of the personnel in the organization, training in all aspects of response, including field exercises, has to be conducted on a regular basis.

### **The Establishment of Response Organizations (ROs) in Atlantic Canada**

In light of the CSA amendments, significant changes had to be made in the capability of industry to respond to marine oil spills. The Canadian Petroleum Products Institute took the lead by forming the Marine Environment Protection Plan (MEPP) Task Force. The mandate of the Task Force was to develop and implement a private-sector response capability in accordance with the recommended legislative requirements and associated standards. It did so by building on the capabilities of oil industry spill response cooperatives and agencies already in existence in strategic areas of Canada. MEPP became operational in 1995 with the creation of new response organizations across Canada.

The Eastern Canada Response Corporation (ECRC) was established to implement industry response to marine oil spills in two regions, Atlantic and Quebec. In Atlantic Canada the Corporation has two locations, one in Dartmouth, Nova Scotia, covering



most of Atlantic Canada, including the Cabot Strait and the Northumberland Strait, and another in St. Johns, Newfoundland, which covers the geographic areas of Come-by-Chance and Holyrood.

Each of these locations has the necessary equipment to handle a spill of up to 2500 tonnes. However, the equipment can be amalgamated to respond to oil spills of up to 10,000 tonnes.

In addition to the locations under the management of ECRC, there are two other oil spill response organizations in the Maritime provinces which are independent of the ECRC, but which have essentially the same response capability. One is the Atlantic Emergency Response Team (ALERT) Inc., located in the designated port of Saint John, New Brunswick. The other is at the designated port of Point Tupper, Nova Scotia, and is operated by Point Tupper Marine Services Ltd. in Port Hawkesbury. ALERT covers the Bay of Fundy and Saint John Harbour areas. Point Tupper Marine Services provides coverage for the waters of the Strait of Canso area, but does not include the waters extending north of the Canso Causeway into St. Georges Bay, the Bras D'or Lakes, or other internal waters of Cape Breton Island.

Both of these agencies have a rated capability to handle spills of up to 10,000 tonnes. All three ROs can be called upon to assist each other when the situation warrants.

Each corporation is individually owned and operated by subscribing member companies. This membership was originally restricted to oil industry representatives, but has increased in number and scope to meet the obligation to provide or arrange for an enhanced response capability.

### Equipment Inventory

Each of the ROs maintains an inventory of equipment necessary for an effective response. This includes inflatable, offshore booms; a wide variety and number of skimmers, including weir skimmers, drum skimmers, disc skimmers and brush skimmers. There are also storage tanks with varying capacities, which can be taken to sea and used to store recovered oil. Storage barges are also available for use offshore as receptacles for recovered oil.

The inventory also includes sorbents and an abundant supply of pumps, hoses, vacuum equipment and generators.

Larger craft are available for use in laying and retrieving boom, deploying skimmers and recovering oil, as well as for use as platforms for work in near shore areas. Several smaller support craft, such as Boston Whalers and Zodiacs, are also on hand.

The ROs also maintain Wildlife Restoration Units, fully equipped to deal with oiled and threatened wildlife. In times of emergency, people with expertise in the handling and care of oiled birds, mammals and other wildlife can be brought in to deal with the situation.

The ROs also store equipment dedicated to shoreline cleanup, including generators, pumps, sorbents (pads and mops), shovels, rakes, buckets, plastic bags (sturdy enough to be lifted by helicopter when filled with oily debris) and other appropriate supplies.

### Training for Marine Response

The ROs train their own personnel, as well as contractors and staff of other companies to respond to and clean up oil spilled into the offshore environment. This ensures that there is an adequate number of trained personnel

available to respond in the event of an emergency.

### Marine Response

Included in the arrangement made between an oil handling facility or a shipping firm and the RO, is a 24 hour emergency contact number. When a spill occurs, the polluter is responsible for contacting the RO through this emergency number to initiate the response. The polluter must also report the incident to the regional pollution reporting number as well.

In the case of an oil spill into marine waters, the initial hours are crucial and the responsible party does not usually have the necessary response capability. Therefore, because the RO has considerable training and relevant expertise, and because of the urgent need to implement immediate response measures, the RO generally operates with little direction from the owners of the facility or the ship. This initial response time has been predetermined and varies. For example, in the case of a spill at an oil handling facility, the initial response is limited to 24 hours while the initial response to spills from vessels offshore continues for 48 hours. During the initial 12 hours of the response, however, the RO is responsible for preparing a plan of action for continued response to and cleanup of the spill after the initial 24 or 48 hour period has elapsed. Government input is obtained as well, and the plan is then presented to the polluter. The Plan of Action requires the agreement and approval of the polluting party before it can be put into effect. The RO will continue its response and clean up activities until the responsible party no longer requires its services.

If an oil handling facility or a ship does not

have an arrangement with an RO and a spill into marine waters occurs, the Canadian Coast Guard may contract the services of an RO. In the case of a spill where the polluting party is unknown (a mystery spill), the Coast Guard may also contract the RO to respond on its behalf.

## RESPONSE TO LAND-BASED SPILLS

### Background

In November, 1989, the CPPI conducted a voluntary audit of its oil spill response capability. As a result, an initiative was introduced to dramatically increase the number and strength of oil spill response cooperatives throughout the country. In Atlantic Canada, ten oil spill emergency response cooperatives were located throughout the region in: Labrador City, St. Anthony, Lewisporte, Cornerbrook and St. Johns, Newfoundland; Newcastle and Saint John, New Brunswick; Sydney and the Halifax Regional Municipality, Nova Scotia, and at Charlottetown, PEI. The ECRC, under a Memorandum of Understanding with CPPI, has been delegated the responsibility for running these oil spill emergency response cooperatives.

The cooperatives are equipped to respond to spills into streams and lakes, and are the most important resource for industry's response to oil spills on land.

An oil spill response vehicle is located at each of the cooperatives. Each tractor-trailer is equipped with enough supplies, including booms, skimmers, pumps, generators, hoses, sorbent, shovels, rakes etc. to respond to small volume, generally land-based spills.



The fully equipped mobile trailer can be rented out, and individual cooperatives can be called upon to assist each other as needed. In addition to the CPPI cooperatives, there are also several other private companies which respond to oil spills in the region. These private companies have response capabilities similar to the cooperatives.

### Training

Selected contractors and cooperative members are trained by the cooperatives themselves, by the ECRC as an agent for CPPI, or by other groups. The major emphasis for this training is response to land spills, but training is also provided on spills into lakes, streams and small rivers. The training addresses such things as booming, use of sorbents, damming and dyking, and other methods of manual cleanup which can be carried out with limited equipment.

## OTHER INDUSTRY RESPONSE CAPABILITY

Several industries and contractors, including many of those which are members of cooperatives and some which have arrangements with an RO, also have a limited response capability of their own. They can respond to small land spills that may occur during the course of routine operations, such as highway accidents and heating fuel leaks.

These companies usually store response supplies, including sorbent material, shovels and rakes, and drums or bags to hold the recovered waste. They also generally have access to excavators, dump trucks and vacuum trucks, and may be capable of responding quickly to stop the spill at the

source, contain it, and initiate cleanup. When resources are limited, the support of the cooperatives may be required during longer term cleanup efforts.

## CONCLUSION

The oil industry and other industries involved in the handling and transport of oil responded positively to the recommendations of the Brander-Smith report by significantly augmenting and enhancing their ability to respond to oil spill emergencies in the marine environment. In the process, they improved their response capability for dealing with land-based spills as well. They have met the challenge of responding to spills of up to 10,000 tonnes through cooperative action to expand and upgrade their inventory of equipment. At the same time, they have improved their ability to organize and manage an appropriate response to spills of considerable magnitude.

To maintain this capability, the industry must continue to evaluate and test its response capability through simulated spill exercises and continue to train their personnel.



## FOR FURTHER INFORMATION CONTACT:

### IN THE ATLANTIC REGION

Regional Environmental Emergencies Coordinator  
Environmental Protection Branch  
Environment Canada  
4<sup>th</sup> Floor, Queen Square  
Dartmouth NS B2Y 2N6  
Phone 902 - 426 - 2576  
Fax 902 - 426 - 9709

### IN NOVA SCOTIA

Nova Scotia Provincial Manager  
Nova Scotia Environmental Protection Office  
Environment Canada  
5151 Terminal Road, 5<sup>th</sup> Floor  
P.O. Box 2107  
Halifax NS B3J 3B7  
Phone 902 - 426 - 5601  
Fax 902 - 426 - 5602

### IN NEW BRUNSWICK

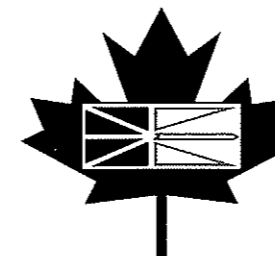
New Brunswick Provincial Manager  
New Brunswick Environmental Protection Office  
Environment Canada  
527 Queen Street  
P.O. Box 400  
Fredericton NB E3B 4Z9  
Phone 506 - 452 - 3286  
Fax 506 - 452 - 3003

### IN PRINCE EDWARD ISLAND

Prince Edward Island Provincial Manager  
Prince Edward Island Environmental Protection Office  
Environment Canada  
97 Queen Street  
Charlottetown PEI C1A 4A9  
Phone 902 - 566 - 7042  
Fax 902 - 566 - 7279

### IN NEWFOUNDLAND AND LABRADOR

Newfoundland and Labrador Provincial Manager  
Newfoundland and Labrador Environmental Protection Office  
P.O. Box 5037  
St. John's NL A1C 5V3  
Phone 709 - 772 - 5488  
Fax 709 - 772 - 5097



**Credits:** This booklet was prepared by Duerden & Keane Consultants Inc.  
in consultation with Ms. Colleen Mullin, Environmental Emergencies Section,  
Environment Canada, Atlantic Region.

Published by the Authority of the Federal Minister of the Environment.  
© Minister of Public Works and Government Services Canada, 1996.