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REGIONAL ASSOCIATION OF OIL AND NATURAL GAS COMPANIES IN LATIN AMERICA AND THE CARIBBEAN

HOW TO DEVELOP A NATIONAL OIL SPILL CONTINGENCY PLAN

OCA TRAM

REGIONAL ASSOCIATION OF OIL AND NATURAL GAS COMPANIES IN LATIN AMERICA AND THE CARIBBEAN

RAC/REMPEITC-Carib (Regional Activity Centre - Regional Marine Pollution Emergency, Information and Training Centre – Caribbean)

ARPEL Environmental Guideline

How to Develop a National Oil Spill Contingency Plan

AUTHORS
Paul Wotherspoon
Lauri Solsberg

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Environmental Services Association
of Alberta
#1710, 10303 Jasper Avenue
Edmonton, Alberta T5J 3N6
CANADA
Tel.: 1 (780) 429-6363
Fax: 1 (780) 429-4249
E-mail: info@esaa.org
http://www.esaa.org

Regional Association of Oil and Natural Gas
Companies in Latin America and the Caribbean
Javier de Viana 2345
CP 11200 Montevideo
URUGUAY
Tel.: (598-2) 410-6993
Fax: (598-2) 410-9207
E-mail: arpel@arpel.org.uy
http://www.arpel.org

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Central American Commission of Maritime
Transportation
Contiguo Hotel Mansión Teodolinda
Apartamento Postal 2423
Managua
NICARAGUA
Tel: (505) 222-2754
Fax: (505) 222-2759
Email: geinfrae@cocatram.org.ni
http://www.cocatram.org.ni

Regional Marine Pollution Emergency, Information
and Training Center - Caribbean
Fokkerweg 26
CURAÇAO
Netherlands Antilles
Tel: (5999) 461-4012
Fax: (5999) 461-1996
Email: bjpeters@attglobal.net
http://www.rac-rempeitc.org

Authors

This Guideline has been prepared by:

Paul Wotherspoon, P. Eng., CEAS, CCEP
Wotherspoon Environmental Inc.
#750, 521 3rd Avenue S.W.
Calgary, Alberta, Canada
CANADA T2P 3T3
Phone: 1 (403) 269-4351
Fax: 1(403) 263-6999
E-mail: paul.wotherspoon@wenv.com
http://www.wenv.com

Lauri Solsberg, P. Eng.
Counterspil Research Inc.
#205-1075 West 1st Street,
North Vancouver, B.C., Canada
CANADA V7P 3T4
Phone: 1 (604) 990-6944
Fax: 1(604) 990-6945
E-mail: mail@counterspil.com
http://www.counterspil.com

Consultants were assisted in detailed drafting and revision by the ARPEL Emergency Response Planning Working Group, RAC/REMPEITC and COCATRAM.

Reviewers

David Davidson (Chevron), Skip Przelomski (CCA), Siegfried Diller (PDVSA), Alberto Casco (BP), Marcus Lisboa (PETROBRAS), Ernesto Pesce (ANCAP), Brian Peters (RAC/REMPEITC) and Miguel Moyano (ARPEL)

Disclaimer

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FOREWORD

This Guideline identifies a methodological approach or template for preparing a National Oil Spill Contingency Plan (the "National Plan"). Other guidelines referenced during the development of this template include those produced by the International Maritime Organization (IMO), the International Petroleum Industry Environmental Conservation Association (IPIECA) and the Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean (ARPEL) as well as a plan template originally prepared by the Regional Marine Pollution Emergency Information and Training Centre – Caribbean (RAC/REMPEITC-Carib). In addition, representatives of the seven Central American countries contributed to this document.

This Guideline does not represent a regulatory requirement. Rather, it is provided to assist representatives from government and industry in working closely together to develop a comprehensive, practical National Plan that allows the implementation of response measures while maximizing environmental protection. To achieve this objective, it is important that the country-specific resources at risk, sources and causes of spills, ambient conditions, legal framework and other relevant factors be considered when developing a National Plan.

This Guideline should be considered to be a template that can be directly used either to develop a National Plan or expand upon an existing one. As a template, it contains "fill in" portions that require some judgment on the part of users to determine the most appropriate information to include.

Given that this Guideline was developed in the context of a regional project with focus in the Wider Caribbean and Central America, there are several specific references to countries in those areas – as well as to regional cooperation planning initiatives. However, users can utilize this Guideline to develop or expand upon National Plans elsewhere by considering their local concerns and spill response capabilities and then incorporating this information into the template. By doing this, a more consistent approach to planning (and therefore spill response with mutual assistance) should result. The original template on which this Guideline was largely based was produced by RAC/REMPEITC-Carib and has been revised with the addition of more comprehensive National Plan elements. The more comprehensive plan contents should help planners from any country determine the most appropriate information to consider to meet their needs. Please note that, other than this Foreword, the parenthetical remarks and several other obvious directives, it is intended that the Guideline be directly applied as a template to produce a National Oil Spill Contingency Plan.

PLAN DISTRIBUTION LIST

DISTRIBUTION			
Agency/Company	Location	Number of Copies	Date
Lead Agency			
Support Agencies			
Other Organizations			
Private Companies			

PLAN CUSTODIAN

Responsibility for development, update, review and amending of this Plan rests with (fill in with the name of the responsible organization).

This Plan is kept current whenever changes to key agencies and/or personnel are made and at least annually. The Plan shall also be revised based on experiences from actual incidents, drills and simulation exercises, to take into account any change in the hazard/threat, as well as changes in technology.

No revisions to the Plan can be made unless these are made through the Plan Custodian who will then ensure that the revised Plan is distributed to all Plan holders.

UPDATING & REVISIONS

UPDATING & REVISIONS				
Change Number	Date	Description of Change	Page	Signature
1				
2				
3				
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GLOSSARY OF TERMS

(This is an example Glossary which is not complete – modify for specific plan needs.)

ARPEL	Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean
CARIBPOLREP	Caribbean Pollution Report
CCA	Clean Caribbean and Americas (formerly Clean Caribbean Cooperative - CCC)
CLC	Civil Liability Convention
Dispersants	Specially formulated agents that are sprayed at low dosages on slicks to enhance its natural mixing and biodegradation in surface waters.
EEZ	Exclusive Economic Zone
EI	Environmental Impact
EOC	Emergency Operations Centre
ETA	Estimated Time of Arrival
Flash Point	The lowest temperature at which the vapors above a volatile liquid form a combustible mixture with air.
In-Situ Burning	A controlled ignition of oil, other hydrocarbon products, and oil spill debris at the site of the spill. For offshore spills the burning of the floating oil may occur with or without fire-resistant booms.
IMO	International Maritime Organization
IPIECA	International Petroleum Industry Environmental Conservation Association
MARPOL	International Convention for Prevention of Maritime Pollution from Ships
MSRC	Marine Spill Response Corporation
ODA	Overseas Development Administration
ODP	Office of Disaster Preparedness
OPRC	Oil Pollution Preparedness, Response and Cooperation
OSC	On-Scene Commander
OSSC	Oil Spill Service Centre
PAH	Polynuclear Aromatic Hydrocarbon
POLREP	Pollution Report
PVC	Polyvinyl Chloride
REMPEITC	Regional Marine Pollution Emergency Information and Training Centre
RP	Responsible Party (The *RP* of an incident is the person, business, or entity that has been identified as owning the vessel or facility that caused the spill. The term does not imply criminal negligence.)
SCUBA	Self-Contained Underwater Breathing Apparatus
SITREPS	Situation Reports
Tier 1 Spills	Accidental discharges occurring at or near a facility as a result of routine operations. Impacts are low and in-house response capability is adequate.
Tier 2 Spills	Medium-sized spills occurring in the vicinity of a facility as a result of a non-routine event. Significant impacts are possible and external (regional) support for adequate spill response is required.
Tier 3 Spills	Large spills occurring either near or remote from a facility as a result of a non-routine event, and requiring substantial resources and support from national or world-wide spill co-

	operatives to mitigate effects perceived to be wide-reaching, i.e., of national or international significance.
UNEP	United Nations Environmental Programme
VHF	Very High Frequency
Viscosity	A measure of the resistance to flow that a liquid offers when it is subjected to shear stress; higher values indicate thicker, slower-moving materials. For example, gasoline has a lower viscosity than diesel.
VOC	Volatile Organic Compound

DEFINITIONS

Examples of definitions can be found in Section 1.5 of the Caribbean Plan.

1. PREFACE

1.1. Introduction

This National Oil Spill Contingency Plan (Short Title Oil Spill Plan) has been prepared to relate at all levels to the Caribbean Island Oil Pollution Preparedness Response and Cooperation (OPRC) Plan - hereafter referred to as The Caribbean Plan.

The Caribbean Plan is designed to enhance an individual territory's ability to respond to a spill that is beyond its own capability and thereby establish the principle of mutual assistance.

The principle of Tiered Response applies, whereby:

- *Tier One* is an accidental discharge occurring at or near a facility as a result of routine operations. Impacts are low and in-house response capability is adequate.
- *Tier Two* are medium-sized spills occurring in the vicinity of a facility as a result of a non-routine event. Significant impacts are possible and external (regional) support for adequate spill response is required.
- *Tier Three* are large spills occurring either near or remote from a facility as a result of a non-routine event, and requiring substantial resources and support from national or world-wide spill co-operatives to mitigate effects perceived to be wide-reaching, i.e., of national or international significance.

To avoid unnecessary duplication in the Oil Spill Plan, reference to the appropriate sections of The Caribbean Plan is made wherever appropriate. However, where important information would be immediately required in an emergency, such information is deliberately repeated in the Oil Spill Plan.

The plan does not in any way relieve authorities and agencies of their day-to-day operational and environmental responsibilities within the areas of their jurisdiction.

1.2. Purpose and Objective

The purpose of the contingency plan is to delineate responsibilities for the operational response to marine emergencies which could result in oil spills to the marine environment and cause damage to (name of the country) or its territorial waters and marine life. The plan, where applicable, will also be adopted to respond to marine spills and pollution by hazardous substances other than oil.

The central objective of all countermeasures operations will be to minimize the threat to seabirds, marine life, fisheries, ecologically sensitive areas, tourist-related beaches, water intakes as well as other economically relevant facilities and amenities at risk.

Procedures will be established that ensure local, national and regional co-operation involving contingency planning, prevention, control and clean up. The National Plan should integrate and support local facility and terminal plans.

1.3. Scope

To ensure a timely and effective response to spills, or the threat of an oil spill, this Plan:

(a) establishes reporting, alerting and assessment systems;
(b) identifies the chain of command and related responsibilities, including the competent national authority and the national oil spill response organization;
(c) establishes an incident reporting procedure;
(d) identifies the size of spill which can be dealt with at the national level;
(e) identifies high risk areas and likely sources of oil spills;
(f) identifies environmentally sensitive coastal areas, vulnerable resources at risk and priorities for protection;
(g) identifies oil spill equipment, logistic support facilities and communication capabilities available within (country);
(h) identifies external sources of expert advice and equipment and establishes procedures for calling them in and entering and departing (country);
(i) identifies (country)'s power of Intervention;
(j) explains the problems to be faced with an oil spill and appropriate response techniques;
(k) identifies storage facilities for recovered oil as well as disposal methods;
(l) establishes a dispersant application policy.
(m) establishes an in-situ burning policy.

The Plan is effective for the territorial waters of (country), its adjoining shoreline and Exclusive Economic Zone. Its response management approach will also be effective for spills of oil or other deleterious petroleum products on land and in any aquatic environment inland. This Plan addresses the geographical area bounded by (latitude), (longitude) including the coastal and territorial waters known as (fill in).

1.4. Statement of Authority

This Plan has been developed by (name of organization), and has been mandated to respond to spills and provide related capabilities according to (list regulations, laws, decrees). Other supporting legislation includes (fill in).

2. RESPONSE MANAGEMENT

2.1. Lead Agency

The Lead Agency is the organization in charge of initiating and receiving information directly from the Lead Agencies of other States and Territories. This organization is in charge of communication between public institutions, private interests and international authorities.

In (country) the Lead Agency is (fill in).

The (fill in) is the established body which is activated when there is a threat of pollution to (country). This group will include representatives from (fill in. e.g., Environmental Health, Tourism, Public Works Department, Marine Police, Attorney General's Chambers, Police, Fire and Rescue, Oil Companies, Ports Authority, Ministry of Communications and Works, Ministry of Natural Resources and Labor, Department of Conservation and Fisheries, Civil Aviation Department, Naval Force and will include the National Disaster Coordinator). Other persons and organizations may by co-opted as appropriate and as desired by the (fill in Lead Agency). Its role is primarily to direct the Response Agency, but also includes planning, preparedness, monitoring, response operations and ensuring that other agencies, such as (fill in) play an appropriate part in support action. This Group will be chaired by (fill in person's position) who will be in overall charge of operations. The chairman will draw on the expertise of (the) (fill in position(s) of person in organization(s) that participate in a supporting role during a spill incident) and will be advised on maritime matters by (fill in position(s) of person in organization(s), e.g., Coast Guard or Navy). Details of all relevant personnel with office and home telephone numbers are included in Appendix A.

In support, at the operational level, there will be an On-Scene Commander (OSC) provided by (fill in name of agency). Resources will be co-opted as necessary and the beach-cleaning task will involve resources from the (fill in, e.g., Public Works Department and Civil Contractors).

2.2. Lead Agency Roles and Responsibilities

The Lead Agency is responsible for the following main functions:

On-Scene Commander

He or she has the overall responsibility for the response operations and must assemble the spill response team (including specialists if required).

(a) The Commander of a Local Incident (Tier 1) is the (fill in, e.g., Harbor Master closest to incident).
(b) The Commander of a Regional Incident (Tier 2) will be (fill in position in agency).
(c) The National Commander of Incidents (Tier 3) will be (fill in position in agency) or the person designated for this post.

Deputy On-Scene Commander

Assists and advises the On-Scene Commander on the status of spill response activities, equipment procurement and heath and safety issues.

Security Officer

Maintains site security. Assists with evacuation and re-routing of traffic.

Information Officer

Collects and disseminates information. Provides data relating to the tanker cargo, ownership, and vessel information.

If a spill is large, a Public Affairs Coordinator may be required to serve as the on-site contact for arranging tours and information gathering and dissemination for agencies, the public, and the media.

Liaison Officer

Coordinates and summons help from support agencies and facilitates and expedites international assistance)

Health and Safety Officer

A safety specialist is usually designated to ensure that the spill location and initial containment site are safe for workers, (e.g., H_2S and explosive meter monitoring). This

Officer also advises the On-Scene Commander of any special safety requirements and ensures that all work is conducted in a safe manner and that all accidents are properly documented.

Legal Officer

Advises on insurance and liability concerns. Ensures that adequate analytical sampling is performed, as necessary, and that photographic, video, and written documentation of all spill response activities are conducted.

Operations Officer

Oversees the administration of Transportation, Storage, Procurement and Finance, and Technical Services (Engineering & Communications), maintaining regular contact with the On-Scene Commander.

Arranges for appropriate spill response equipment, including:

(a) Containment
(b) Recovery
(c) Disposal
(d) Stock and control provisions

A Cleanup Supervisor may be required to coordinate the spill response activities of a large spill including managing the Response Team. For marine spills, a Marine Cleanup Supervisor and a Shoreline Cleanup Supervisor might be needed. He or she ensures sufficient personnel and equipment are assigned to land or water based recovery locations and oversees access, site preparation and disposal.

Planning Officer

Coordinates:

(a) Status reports
(b) Environmental monitoring and risk management
(c) Safety
(d) Public Security
(e) Communications
(f) Training

Environmental Officer

Administers environmental affairs, including confirming mandatory regulatory agency notification has been completed and technical environmental expertise is available as required. Monitors the effectiveness of the spill response.

An Environmental Advisor assists the Environmental Manager by advising on the ecological impacts of the spilled oil and cleanup methods as well as on environmental regulations.

Logistics Officer

Coordinates communications and equipment, personnel and supply movements in a large spill. Activates a mobile command centre and ensures that its operational needs are met. Duties also include:

(a) Spill access
(b) Equipment expediting
(c) Accommodation
(d) Catering
(e) Evacuation
(f) Field Coordination (summon equipment, maintain field communications equipment, coordinate logistic support)
(g) Arrange for technical and repair services

Finance Officer

Facilitates financial and other resources, arranges payments and controls invoicing. Ensures on-site cost and recovery accounting and a chronological record keeping of spill control events.

2.3. Response Organization

The responsibilities of the Response Organization and the Command Teams are briefly defined in Appendix D.

2.4. Operations Centre

The Operations Centre is the (name of building) at (full address). The Centre will be staffed as necessary and will provide the command and control facility for the entire oil spill operation. An alternate response centre is (name of building) at (full address).
(A layout drawing may be included here.)
Appendix I contains additional information on Operations Centres.

2.5. Support Agencies and Companies

The support agencies and companies provide technical and advisory assistance to the Lead Agency in the areas of planning, emergency services, infrastructure and social services. (These resources can be drawn from public institutions, private enterprise, oil companies, and volunteer and charitable organizations. International Agencies can also be utilized to provide expert advice, equipment and personnel)

Brief descriptions of the roles of support agencies are included in Appendix F.

2.6. Interagency Agreements

Interagency agreements to provide assistance have been made with the following agencies and industries:
(List agencies and industries with full details of contacts, address, phone, fax, e-mail, etc.)
(Country) is signatory to the following International Conventions (fill in).

Convention / Agreement	Signed / Ratified
OPRC 90	
OPRC-HNS Protocol 2000	
CLC 69 92 Fund 92	
Marpol 73/78 III IV V VI	
Linkage to Other National Plans (bi- and multi-lateral)	
Cartagena Convention	

3. POLICIES AND PREPAREDNESS

3.1. National Policy

In the event of a major oil spill in the marine environment, the following assumptions are made:

(a) Because of time constraints, waves and wind, and spill countermeasures limitations, it is likely that only a very modest at-sea operation could be mounted either by (country), by supporting Caribbean states, Central American countries, or by external global resources. In the initial stages of any operation, monitoring of oil slicks by (fill in organization) and forecasting their movement is likely to be the limit of at-sea involvement.
(b) The mounting of a labor-intensive and protracted beach cleaning operation would quickly absorb the available labor force so that external reinforcement of equipment and personnel would almost certainly be required.
(c) In the event of extensive oil impacts, a substantial marine logistical task would be required to organize and sustain the deployment of cleanup personnel and equipment.
(d) It is likely that (country) will be able to dispose of only small amounts of oily residue and waste within the territory.

In major spills, National Policy must recognize that at-sea operations are likely to be limited so that emphasis must be placed on shoreline treatment operations. It must also assume limited response capability may be available from local resources and reliance must be placed on technical expertise, equipment and personnel being deployed from outside the region. This plan recognizes this fact and ensures the smooth and effective administration, control and deployment of such external aid, the details of which deserve separate study.

Smaller amounts of oil resulting from minor incidents should be manageable by local resources when it comes ashore. Oil pollution from illegal discharges that frequently reach the shoreline in the form of tar balls poses a lesser threat. Tar balls are nevertheless a considerable nuisance and should be handled using a local capability.

Due to the proximity of (fill in name(s) of neighboring country/ies) and the fact that a threat to one country may pose a threat to another, a good working relationship should be developed between the authorities of the involved territories in Central America with each Contingency Plan being held by the other. In the interest of reducing the impacts of a major oil spill that occurs close to a country's territorial borders, a Rapid Response Agreement of equal right of access should be established. Details of the Rapid Response Agreement are included in Section 2.7 of the Caribbean Plan.

3.2. Local and Facility Plans

All ships/exploration operations/ports/harbor facilities/terminals/pipelines that transport or handle hydrocarbons or other potentially dangerous substances must submit emergency plans to (fill in agency name). The local plan should be consistent with and be coordinated with other response plans (national and regional). Meetings will be required to review local plan requirements with agencies that oversee contingency planning. These agencies will likely ensure that a Plan is compliant.

Prior to approval, local plans must:

(a) Include a minimum level of personnel and equipment
(b) Describe activation of the company's response system
(c) Provide a declaration or copy of insurance certificates

See Appendix Y, Preparation of Local and Facility Plans.

MARPOL 73/78 Regulation requires that every oil tanker of 150 tons gross tonnage and above and every other ship other than an oil tanker of 400 tons gross tonnage and above shall carry onboard a shipboard oil pollution emergency plan approved by the Flag State. The plan must be in accordance with guidelines developed by IMO and should include, as a minimum, the following information in the event of an oil pollution incident:

(a) reporting procedure
(b) list of authorities to be contacted
(c) detailed description of the action to be taken immediately by persons onboard to reduce or control the discharge of oil
(d) procedures and point of contact on the ship for coordinating shipboard activities with national and local authorities in combating the pollution

3.3. Risk Assessment

Marine traffic, especially oil tankers, large cruise liners and cargo vessels in transit through coastal waters, present the risk of major oil pollution from collision, fire, explosion and grounding. Lesser, but nevertheless serious, pollution is caused by vessels pumping out their bilges or otherwise illegally discharging oil. Pipelines, refineries, and oil handling facilities also pose a threat to both marine and inland environments.

Risk scenarios resulting from normal oil industry and shipping operations on, or in the vicinity, of (country) should be identified. The National Contingency should outline a response capability, in co-operation with industry, to cover these operations.

The Caribbean Plan Chapter XI expands on the threat throughout the Caribbean Region.
The risk of spills in (country) is summarized in Appendix S according to the primary activities that could lead to accidental discharges. See also Appendix R for sensitive zones that would have the highest potential impacts from oil.

3.4. Training and Exercises

The (fill in) will arrange periodic exercises to ensure that reporting, alerting and communication systems function effectively and that those personnel assigned specific tasks under this plan are familiar with them.

The mobilization and deployment of equipment, personnel and materials to ensure availability and performance should be exercised. Additionally training programs for shoreline cleanup personnel and the Control and Command Teams will be developed.

Annual training will be held that includes multiple agencies in (country). Exercises with neighboring countries should be held every three years to test response plans and the coordination of planning and operations.

3.5. Use of Dispersants

The criteria for the use of chemical dispersants in the Caribbean Region are established in the Caribbean Island OPRC Plan (see also Appendix P).

The (fill in agency) will be responsible for the approval of the use of dispersants in (country) waters in accordance with the criteria agreed for the Region unless there are special overriding considerations at the time. It must be noted, however, that for chemical dispersants to be effective, they must be applied on fresh oil in order to maximize the limited window of opportunity for their use – often within 24-48 hours following a spill. This window of opportunity may be expanded in some cases to 72-96 hours depending on the oil type and dispersant to be used.

It is further emphasized that only licensed and approved dispersants are permitted. This does not include commercial detergents -- which must never be applied.

3.6. In-Situ Burning

Criteria for in-situ burning in the Caribbean Region are established in the Caribbean Island OPRC Plan (see also Appendix Q).

The (fill in agency) will be responsible for the approval of in-situ burning in (country) waters in accordance with the criteria agreed for the Region unless there are special overriding considerations at the time. It must be noted, however, that for in-situ burning to be safe and effective, it must occur on fresh oil in order to maximize the limited window of opportunity – often within 24-48 hours following a spill. Safety concerns with regard to the fire and smoke plume must also be considered, and must not occur closer than 12 miles from any adjacent Island State or Territory.

It is further emphasized that only approved equipment comprised of fire-resistant booms and igniters are permitted.

3.7. Illegal Discharges

If an illegal discharge takes place within a port area of (country), the (fill in) will consider whether prosecution action is appropriate under the International Convention for Prevention of Pollution from Ships, MARPOL 73/78, and local laws and regulations.

If a foreign ship discharges oil while passing through the territorial waters of (country), the (fill in) will advise the (fill in) who will report the incident to the Flag State of the vessel concerned along with any photographs or evidence and request that the matter be investigated further.

3.8. Intervention

The (fill in) will monitor all actions by a damaged vessel, will carefully assess any salvage agreement between the master of the Vessel and any Salvage Company, and will be prepared at all times to intervene under the (fill in), can use this power to give direction when:

(a) an accident has occurred to or in a ship;
(b) in the opinion of (fill in), oil from the ship will or may cause pollution on a large scale to (country) or in the waters thereof;
(c) in the opinion of (fill in), action is urgently required to prevent or reduce oil pollution or the risk of oil pollution.

Directions in this respect will relate to either the ship or its cargo and should preferably be in writing. Once action is taken, the (fill in) can arrange for other persons to act on his behalf.

Further details on Intervention are in the Caribbean Island OPRC Plan.

4. RESPONSE

4.1. Alerting Systems

Following notification, the (fill in organization) will activate the Operations Centre and the personnel designated to staff the Centre positions should report for duty. Once the significance of the incident has been confirmed, the (fill in position of person in Lead Agency organization) will activate the (fill in designated Response Agency). (Fill in position within designated Lead Agency), who has overall responsibility for implementation of the Plan will also contact external agencies such as the (fill in, e.g. Foreign and Commonwealth Office) and others as appropriate. The International Maritime Organization (IMO) Regional Consultants in Curacao will also be informed as necessary in accordance with the Caribbean Island OPRC Plan.

4.2. Spill Assessment and Surveillance

Initial confirmation will be made by the (fill in agency name, e.g., Coast Guard or Navy) using information gained by observation by the aircraft and surface vessel and an assessment as to the threat to the (country) will be made by the (fill in) who will report directly to the (fill in Lead Agency).

The Lead Agency should arrange for surveillance of the oil slick and, by use of meteorological and hydrographic data, predict its probable movement.

If the assessment shows that another state is likely to be threatened, the Lead Agency of (country) will inform that state.

For routine surveillance all pilots of aircraft and masters of ships and vessels should be instructed by the Civil Aviation and Seaport Authorities to report any sightings of oil in the sea for immediate onward transmission to the Lead Agency.

Instruction on aerial surveillance is included in the Caribbean Island OPRC Plan.

4.3. Cleanup Response Decision and Operations

The (fill in Command Team) will meet under the Chairmanship of the (fill in Lead Agency) when summoned. It will implement the National Plan and will also consider the following matters:

(a) the desirability of engaging external expertise to advise on oil spill cleanup, and the related measures needed to deploy external resources into and within the territory;
(b) the possible prevention or reduction of outflow of oil at source;
(c) if marine or coastal resources are threatened, whether it is practicable to mount any at-sea response, with or without external aid, and whether sensitive shoreline areas need to be protected by the deployment of booms;
(d) if beaches have been, or are likely to be affected, determine cleanup priorities and direct resources accordingly;
(e) mobilize personnel, equipment and materials from internal and, if necessary, external resources.

To assist in making these decisions, Appendix R indicates environmentally sensitive areas as the priority areas for cleanup. Appendix K lists locally available resources. It is expected that (local company(ies)) equipment will be made available (unless required for tanker operations on the basis that it is returned as supplied). Appendix L lists external sources of specialist equipment. Appendix M identifies sources from which expert advice might be obtained on response options and Appendix N gives spill response and cleanup strategies.

4.4. Cleanup and Disposal of Recovered Oil

If the spill takes the form of tar balls washed up on the beaches, these will be put into plastic bags and disposed of at a location and in a manner approved by the (fill in, e.g., Health and Environment Authorities). The cleanup will be conducted by workers mobilized by the (fill in). Appeals may be made for volunteer groups to assist. Tarred sand will be removed with appropriate equipment supplied by (fill in, e.g., Public Works) or contractors and transported to the designated disposal site. Any liquid oil recovered will have to be placed in containers and disposed of properly.

4.5. Restoration of Affected Areas

Once cleanup operations are completed, it may be necessary to restore affected areas. The degree of restoration will be determined by the (fill in Environmental Agency) in consultation with support agencies.

Consideration will be given, as necessary to replacing contaminated beach sand, replanting mangrove stands, marsh and sea grasses, and restocking aqua-cultural projects.

In areas identified as having high environmental sensitivity, consideration will be given to establishing a monitoring program to determine the long-term effects on flora and fauna.

4.6. Handling of External Resources

The handling of external reinforcements of personnel and equipment will inevitably impose considerable strain on (country) internal arrangements and the whole subject should form the basis of a separate detailed plan. However, the following salient points deserve mention here:

(a) Aircraft likely to be deployed are Hercules C 130 and Russian Ilyushin IL-76;
(b) Aircraft usage of airports at (fill in) will certainly be required for landing and unloading of certain aircraft and, for fuelling by all aircraft;
(c) Availability and deployment or marine crafts;
(d) Seaport docking and cargo handling facilities and, where necessary, water transport;
(e) Immigration, Health and Customs arrangements;
(f) Food, accommodation, medical and public health services.

4.7. Technical Advice and Resources from Outside of the Country

In the event of a spill being determined to be beyond the resources of the Region and recognizing the need for speedy deployment of reinforcements, the following reporting procedures have been established:

(a) Report details direct to (fill in Lead Agency).
(b) (fill in Lead Agency) will then
  (i) Contact the (fill in Lead Agencies of neighboring countries).
  (ii) Depending on that advice, approach with a request for third party access to cleanup facilities, trained personnel and air deployment using dedicated aircraft.
  (iii) Apply to the Overseas Development Administration (ODA) (Disaster Unit) for necessary financial underwriting. It should be noted that if the oil spill is from a damaged tanker all 'reasonable' costs incurred in the cleanup will be reimbursed by the Civil Liability Convention (CLC) and the International Oil Pollution Compensation Fund. (See the Caribbean Island OPRC Plan).

4.8. Public Relations

Effective public relations are an integral part of any oil spill clean up operation. In the event of spillage, the (fill in OSC) will make arrangements for an experienced public relations officer to disseminate pertinent information to the public and the media to ensure that those who need to know have a full and timely appreciation of the incident and of the actions taken and progress made during the response.

A carefully worded press release will be issued in consultation with the (fill in, e.g., Tourist Board).

4.9. Health and Safety

Personnel health and safety are prime considerations during an incident response when safety issues can be more complex than those during regular industry duties. As an example, an oil spill recovery on a watercourse involves boat operations where personnel can potentially be exposed to toxic and flammable hazards.

Contingency plans must state the health and safety precautions and any company specific procedures. This includes the need to identify information and procedures on:

(a) toxicology
(b) fire and explosion hazards / risk
(c) operations safety guidelines
(d) personal protective equipment
(e) site security
(f) personnel safety responsibilities

The (fill in Health and Safety Organization) will provide direction with respect to the safety measures and use of suitable personal protective equipment for the different component tasks from a response operation. Companies are expected to follow the health and safety requirements of the (fill in Health and Safety Organization).

5. REPORTING, COMMUNICATION, LEGAL AND FINANCE

5.1. Reporting Systems

Upon notification of an oil spill, the (fill in), which is usually the initial contact point, shall immediately notify the Lead Agency and On-Scene Commanders, who will in turn alert relevant support agencies. The format for an initial oil spill notification report is contained in Appendix B and Appendix C is the format for the subsequent more detailed follow-up report - CARIBPOLREP.

Reporting is a mandatory requirement under international conventions (see below) with similar requirements also reflected in national regulations.

5.2. Vessel Reporting

Ship Masters

Masters or other persons in charge of passing vessels shall report without delay any sightings of oil on the surface of the water to the nearest coastal Island State or Territory as required by Article 4, Oil Pollution Reporting Procedures, Section (10) (a) of the International Convention on Oil Pollution Preparedness Response and Co-operation, 1990 (OPRC).

Ship Owner

Most ships masters are obliged by an applicable regulation (under the law of an Island State or Territory, derived from international conventions to which the government is Party) to notify the nearest State or Territory of a marine pollution emergency that has arisen. Normally this obligation will fall upon the master of the ship, but if the ship has been abandoned, or if the master's report is incomplete, then the obligation on the ship owner to make a report may arise. The obligation to report, which parties to MARPOL 73/78 undertake to implement in their internal law for ships registered in their territory, is contained in Protocol I of that Convention.

5.3. Notification of the Flag State

Under article 5(3) of MARPOL 73/78, the flag State is entitled to receive notification if any other State party denies the ship entry to its ports or offshore terminals or takes any action against the ship for the reason that it does not comply with MARPOL 73/78.

Under article 6 of MARPOL 73/78, the flag State must cooperate with other Parties in the detection of violations and the enforcement of the provisions of the Convention; if presented with evidence of a violation, the flag State must investigate the matter and, if satisfied that there is sufficient available evidence for proceedings to be brought for a violation, it must instigate such proceedings.

5.4. Communications

In the event of an oil spill, the (fill in) will be the Co-ordination Centre. All information from the site of the spill and impacted areas will be fed into the (fill in) by ship-to-shore/shore-to-ship VHF. When the spill reaches a beach, a field site would be set up to feed information into the control Centre. Each On-Scene Commander will be responsible for coordinating information to be fed into the Centre. Communication arrangements are described in Appendix O.

5.5. Compensation

This gives force to the 1992 Protocol of the International Convention and Civil Liability for Oil Pollution damage (the "CLC") and makes the owner of a ship carrying cargo of persistent oil in bulk strictly liable for any pollution damage in the area of (country) including the territorial waters, seabed, shores, beaches and ecology thereof.

The liability extends to post-spillage prevention and cleanup costs. (Country) does not have to prove that the ship was in any way at fault in causing the pollution.

In cases where the costs of cleanup exceed the limited liability of the owner of the ship, (country) may make a claim to the International Oil Pollution Compensation Fund in accordance with the 1992 Protocol of the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage.

It should be noted that none of these compensation schemes applies to illegal discharges (see paragraph 13). However, applicable local legislation may be in place to address illegal discharges.

Further details on cost recovery schemes are presented in Chapter 8 of the Caribbean Plan.

5.6. Record Keeping and Preparation of Claims

In order that financial claims may be processed with minimum delay, it is essential that accurate records are maintained for each cleanup location and include details of all actions taken; the reason for such action; personnel and equipment deployed; and consumable materials used. The (fill in) and the On-Scene Commanders will be responsible for ensuring that these very important records are maintained.

5.7. Post-Incident Reports

Following resolution of the oil spill and termination of the response for a particular incident, the support agencies involved will be responsible for submission of an After Action Report to the On-Scene Commanders not later than three days following closing of the response. The On-Scene Commanders and the (fill in) shall be jointly responsible for submission of a comprehensive After Action Report, incorporating reports from all responsible agencies within 7 days of closing the particular response.

Subsequently, the (fill in) will submit the final report to the (fill in e.g., Governor and the Chief Minister), for their approval.

Complied by _____

Approved by _____

Countersigned by _____

Date _____

APPENDICES

A Contact List
B Initial Oil Spill Report Format
C International Notification Procedures, including CARIBPOLREP Format
D Response Organization
E Command Teams
F Support Organizations and Roles
G Organization Plan Chart
H Alerting Sequence (Information Chart)
I Operations Centre
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K Locally Available Oil Spill Response Resources
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Appendix A - Contact List (Example – see also Caribbean Island OPRC Plan for formatting)

PUERTO RICO (US)
MINISTRY OF LEAD AGENCY
U.S. Coast Guard
Chief, Office of Response
Commandant (G-MOR)
U.S. Coast Guard
2100 Second St., S.W.
Washington, D.C. 20593
TEL: 1 (787) 267-2466 (Puerto Rico #)
FAX: 1 (787) 267-4065 (Puerto Rico #)
TELEX: none
EMAIL

LEAD AGENCY
U.S. Coast Guard Sector San Juan
5 Calle La Puntilla
San Juan, Puerto Rico 00901-1800
TEL: 1 (787) 289-2041
FAX: 1 (787) 729-6706
TELEX: none
EMAIL: Kgabrielsen@gantsec.uscg.mil
POC: Chief, Response Command

RESPONSE AGENCY
Environmental Quality Board
P.O. Box 11488
Pta. de Tierra
San Juan, Puerto Rico 00910
TEL: 1 (787) 767-8031
FAX: 1 (787) 767-8118
TELEX: none
EMAIL:
POC: Mr. Israel Torres

NATIONAL OPERATIONAL CONTACT POINT
National Response Center
Commandant
Rm 2611
2100 2nd St S.W.
Washington D.C. 20593
Tel: 1800-424-8802/ 1-202-267-2675
Fax: 1-202-267-4085/4065
1-202-267-2165 (after hours)

Date of latest information: May 2005

External Contact List					
Name	Position	Organization	Office	Home	Cellular

International Response and Advice Agencies		
Agency	Address	Phone
CARIBPOLREP message sent directly to neighboring islands or to: U.S. Coast Guard	U.S. Coast Guard Sector San Juan 5 Calle La Puntilla San Juan, Puerto Rico 00901-1800	Tel: 1 (787)-289-2041 Fax: 1 (809) 729-6706
International Maritime Organization, Regional Activity Center/ Regional Marine Pollution Emergency Information and Training Centre (Wider Caribbean) – RAC/REMPEITC-Carib	Fokkerweg 26 Curacao, Netherlands Antilles	Tel: (5999) 461-4012 Fax: (5999) 461-1996 Email: imoctr@attglobal.net
Marine Spill Response Corporation, External Affairs Manager	Southeast, Region 2, 905 South American Way, Miami, Florida 33132 USA	Tel: 1 (305) 375-9269/9269 Fax: 1 (305) 577-8523
Clean Caribbean and Americas (CCA) (formerly Clean Caribbean Cooperative (CCC))	2381 Stirling Road, Fort Lauderdale, Florida 33312 USA	Tel: 1 (954) 983-9880 (24 hr) Fax: 1 (954) 987-3001 Email: staff@cleancaribbean.org Web Site: www.cleancaribbean.org
Oil Spill Response Limited (OSRL)	Southampton, United Kingdom	Tel: 44 (0) 23 8033 1551 (24 hr) Fax: 44 (0) 23 8033 1972 Email: osrl@osrl.co.uk Web Site: www.oilspillresponse.com
Global Response Network which includes OSRL, EARL and MSRC	Southampton, United Kingdom	For further info please contact Thomas Liebert (GRN Co-ordinator) Tel: 44-20-77247203 or tliebert@osrl.co.uk
Include other organizations as appropriate – ITOPF, P& I Club, etc.		

Appendix B - Format for Initial Oil Spill Notification Report

a. Classification of Report
   - doubtful
   - probable
   - confirmed
b. Date and time pollution observed/reported and by whom
c. Position and extent of pollution
d. Tide, wind speed and direction
e. Weather conditions and sea state
f. Characteristics of pollution (e.g. type of oil, if known, or color)
g. Source and cause of pollution (if known, e.g. name of vessel, and whether deliberate or accidental)
h. Details of any vessel in the area (to be given if polluter cannot be identified)
i. Whether photographs or samples have been taken: forecast of likely effect of pollution (e.g. estimated time and extent of beaching)

Appendix C - International Notification Procedures (Including CARIBPOLREP Format)

1.0 Dissemination of Information on Oil Spill Incidents

1.1 An Island State or Territory first receiving a report of an oil spill incident should immediately inform neighboring Island States and Territories that the incident may affect their related interests, giving as much detail as possible about the incident. In the event that a spill has occurred, that information should include date, time, position, type and amount of oil spilled, the prevailing and forecast weather conditions, proposed actions and recommendations. As the situation develops, information to these Island States or Territories must be updated continuously, and a regular synopsis provided to keep them informed. The procedures for such reports and communications are described in this chapter of the Plan. Transmission of such reports should not be delayed if complete information is not immediately available.

1.2 Available meteorological and hydrographic data should be analyzed to give rough early predictions of general spill movement. More sophisticated spill movement prediction methods may be subsequently used. However, visual observation of any spill is essential and the responsible authority under the appropriate National Contingency Plan should use those resources already identified, such as charter, military or commercial aircraft for surveillance. It is essential that the results of such observation and prediction be transmitted to other States and Territories that may be affected by the spilled oil until it no longer threatens any Island States and Territories in the area covered by the Plan.

1.3 Participating Island States and Territories should make every effort to transmit information that may aid in establishing liability for pollution removal costs, damages, and related fines and penalties, to requesting national authorities from other participating Island States and Territories that are, or may have been, affected by an oil spill incident.

1.4 The initial report of an oil spill to a Lead Agency may be received from a variety of sources and may require confirmation by the Lead Agency that receives the report. After confirmation, the Lead Agency will draft a POLREP, message to all the Lead Agencies of the other Island States or Territory's Caribbean Plan Regional Organization. If over flights or surface vessel observations determine that one or more States or Territories could be affected by the movement of the oil on the surface of the water, then speed of drift and direction shall be calculated and reported along with all other pertinent information.

2.0 Message Routing Procedure (CARIBPOLREP)

2.1 After receipt of the initial report of an oil spill incident the Lead Agency may require confirmation of the spill sighting. After the spill has been confirmed, the Lead Agency, utilizing the Caribbean Oil and Hazardous Material Spill Alerting Mechanism, will prepare a CARIBPOLREP message to notify neighboring Island States and Territories that may be affected by the spill.

2.2 The CARIBPOLREP message will be sent directly to neighboring islands or to the U.S. Coast Guard, Sector San Juan, Puerto Rico [Tel (787) 289-2041 Fax (787) 729-6706] requesting relay of the CARIBPOLREP messages to member Island States or Territories alerting them of the spill and the possibility that assistance may be needed as defined in the Caribbean Island OPRC Plan.

2.3 Once the initial CARIBPOLREP message has been sent subsequent messages will be routed through the established routing network until the spill emergency has been concluded.

3.0 CARIBPOLREP FORMAT

3.1 The following is a summarized list of the composition of the CARIBPOLREP message.

Heading

1. Date time group:
2. From:
3. To:
4. Subject:

Situation

1. Date and Time
2. Position
3. Incident
4. Outflow
5. Characteristics of Pollution
6. Source and Cause of Pollution
7. Wind direction and speed
8. Current or tide
9. Sea state and visibility
10. Drift of pollution
11. Forecast
12. Identity of observer and ships on scene

Action Taken

1. Implementation of National Contingency Plan
2. Incident surveillance
3. Photographs and samples
4. Names of other states informed

Future Plans

Various types of information such as anticipated changes of command; reducing information exchange to encompass only relevant, affected parties, etc.

Assistance Requested

1. Source of assistance.
2. Estimated cost.
3. Prearrangement for delivery.
4. Assistance to where and how.
5. Other states requested.
6. Names and passport numbers of persons.
7. Description of equipment.
8. ETA and arrival information.
9. Place of embarkation.
10. Place of disembarkation.

3.2 If the CARIBPOLREP is used in exercises, the text is to be introduced with the word EXERCISE and finished with this word three times. Each of the subsequent reports, which deal with the exercise, must be introduced and finished with the word EXERCISE as well.

4.0 CARIBPOLREP Explanation

HEADING	REMARKS
1. Date Time Group:	The day of the month as well as the time of day of the message
2. From:	Lead Agency of the Island State or Territory that is initiating the message.
3. To:	Commander Sector San Juan, Puerto Rico requesting the U.S. Coast Guard pass the message to other Island States or Territories. Lead Agencies may pass information directly to other Island States of Territories that may be affected by the Spill.
4. Subject:	CARIBPOLREP, sequential number of the report and the name of the vessel on facility involved in the spill incident.
SITUATION	
1. Date and Time:	Date and time of the incident
2. Position:	Position of vessel or vessels involved in the incident. If source of spill is unknown location by latitude and longitude in degrees and minutes and may, in addition, give the bearings of and the distance from a location known by the receiver.
3. Incident:	The nature of the incident should be stated here, such as BLOWOUT, TANKER GROUNDING, TANKER COLLISION, OIL SLICK, etc.
4. Outflow:	The nature of the pollution, such as CRUDE OIL, CHLORINE, DINITROL, PHENOL, etc., as well as the total quantity in tonnes of the outflow and/or the flow rate, as well as the risk of further outflow. If there is no pollution but a pollution threat, the words NOT YET followed by the substance, for example, NOT YET FUEL OIL, should be stated.

5. Characteristics of Pollution:	Gives type of pollution, e.g., type of oil with viscosity and pour point, packaged or bulk chemicals, give proper name or United Nations number, if known. For all, give also appearance, e.g. liquid, floating solid, liquid oil, semi-liquid sludge, tarry lumps, weathered oil, discoloration of sea, visible vapor. Any markings on drums, containers, etc., should be given.
6. Source and Cause of Pollution:	e.g., from vessel or other undertaking. If from vessel, say whether as a result of a deliberate discharge or casualty. If the latter, give brief description. Where possible, give name, type, size, call sign, nationality and port of registration of polluting vessel. If vessel is proceeding on its way, give course, speed and destination.
7. Wind Direction and Speed:	Indicates wind direction and speed in degrees and MPH. The direction always indicates from where the wind is blowing.
8. Current of Tide:	Indicates current direction and speed in degrees and knots and tenths of knots. The direction always indicates the direction in which the current is flowing.
9. Sea State and Visibility:	Sea state indicated as wave height in meters. Visibility is in nautical miles.
10. Drift of Pollution:	Indicates drift course and speed of pollution in degrees and knots and tenths of knots. In case of air pollution, (gas cloud), drift speed is indicated in m/s.
11. Forecast:	e.g., arrival on beach with estimated timing. Results of mathematical models, or computer trajectory modeling.
12. Identity of Observer and Ship on Scene:	Indicates who has reported the incident. If a ship, name, home port, flag and call sign must be given. Ships on scene can also be indicated under this item by name, home port, flag and call sign, especially if the polluter cannot be identified and the spill is considered to be of recent origin.

ACTION TAKEN

1. Implementation of National Contingency Plan:	Indicate if National Contingency Plan has been activated. If appropriate, give name of Response Agency and On-Scene-Commander.
2. Incident Surveillance:	Indicate type of spill surveillance such as aerial or vessel. Number of over flights per day, etc.
3. Photographs or Samples:	Indicates if photographs or samples from the pollution have been taken. Fax or Telex number of the sampling authority should be given.
4. Names of Other States Informed:	Lead agency initiating message concerning the spill incident should name the other Island States that have been notified directly. This is important if the control of communications is being passed to the U.S. Coast Guard Commander, Greater Antilles.
5. Assistance to Where and How:	Information concerning the delivery of the assistance e.g., rendezvous at sea with information on frequencies to be used, call sign and name of on-scene commander of the requesting Island State or Territory or land-based authorities with telephone number, fax, or telex number and contact person.
6. Other States Requested:	Only used if not covered by 4.4.5.1 if further assistance is later needed by other Island States or Territories.
7. Personnel Names, Passport Nationality and Number:	Names of persons responding from an assisting Island State including their passport numbers. This information is necessary to facilitate rapid entry into the requesting Island State or Territory.
8. Description of Equipment:	A brief description of the equipment including serial and model numbers. Also included a list of any component parts that are being shipped with the equipment.
9. ETA and Arrival Information:	Time and place of arrival of equipment and of personnel should be given to accommodate clearance with customs and immigration officials in the requesting Island State or Territory.
10. Place of Embarkation:	The responding Island State should give the airport or seaport where responding personnel will be arriving at in the requesting country.

11. Spare:	Any relevant information pertaining to the spill should be included such as results of field inspections or surveys. Statements of ships personnel. Vessel and cargo owners and if the owners are members of a cooperative association, etc.

Appendix D - Response Organization

A nation/country should not respond to a spill independently of the Responsible Party (RP). Working together with the RP will result in the best response to a spill incident. The organizational structure outlined in this Plan should accommodate the intent of industry where the RP is undertaking an appropriate/best practice response. Therefore a non-adversarial response and management approach is highly recommended.

General Responsibilities

(Fill in Agency)

(a) Overall responsibility for implementation of the Plan.
(b) Coordination of activities with the Responsible Party (RP).
(c) Foreign/Overseas Relations: Contact and liaison with Foreign or External Agencies and others; as appropriate.

(Fill in Agency)

(a) Activation of the Plan and closing of operations for medium/major incidents.
(b) Report and make recommendations to the (fill in, e.g. Chief Minister), as appropriate.
(c) Contact and liaison with IMO (regional and headquarters).
(d) Report to Flag State of ship involved in pollution incident.
(e) Overall charge of response operations.

(Fill in, e.g. Marine Pollution Action Group)

(a) Chairman: (fill in) - Overall charge of operations already mentioned above
(b) National response coordination: Develop and monitor procedures to promote unified response of all participants.
(c) Policy advise to RP, Government and on:
(d) National response and resource capability
(e) International cooperation
(f) Advice and support to OSC
(g) Monitor reports, evaluate likely impact of pollutants and OSC's plans and actions.
(h) Coordinate actions of local, national, bilateral and international agencies in providing necessary support to the OSC. (e.g., Public and Private Sectors, U.S. Coast Guard, Regional Plan, CCA, IMO, UNEP).
(i) Public Relations, liaison with local and foreign media.
(j) Administration of response including record keeping, cost accounting and claims management.
(k) Ensure OSCs have adequate funds, administrative, technical and scientific support, as necessary and on time.
(l) Secure external assistance, personnel and equipment, as appropriate.
(m) Approve/not approve use of Dispersants in (country) waters and Coastal areas.
(n) Prepare briefing for (fill in, e.g. Governor, Chief Minister, Ministers), other officials, and dignitaries.
(o) Ensure adequate communications link throughout operational of command: Government/Command Center//OSC/Field Staff, etc.
(p) Preparation of Final Report after incidents.
(q) See Plan for other aspects.

Ministry of (fill in)
This Ministry has general responsibility for the total environment (land, sea, and air) and related natural resources that this plan seeks to protect. It is responsible for advising the OSC concerning operations affecting critical natural resource damage and shall document natural resource damage and losses for purposes of obtaining compensation or undertaking mitigation measures.

Ministry of (fill in)
This Ministry controls most of the Government's technical equipment and personnel that may be used in a response. It has legal authorities to control marine, land and air transportation at the local and international levels. It supervises the (fill in, e.g. Public Works Department, Ports Authority, Civil Aviation, Water and Sewerage and Energy, Fire and Rescue and Telecommunications). At one stage or another, these bodies are critical to the success of a response.

On-Scene-Commander (OSC)
They are charged with responsibility for operational control and management functions to combat any oil spill or other marine pollution incident, each in his or her respective area.

The OSC will need to work closely with the Responsible Party (RP) when the RP is taking that responsibility seriously. The Country's OSC should be working in conjunction with the RP:

(a) to mitigate the spill
(b) to conduct effective clean-up operations
(c) to avoid the introduction of any political agenda at this level.
(d) to assist the RP in matters such as arranging for expedited customs/immigration services when bringing resources in from outside the Country
(e) to assist the RP in exporting these same resources to their home base once the incident is over.

The OSC will also collaborate as necessary in the following duties/responsibilities and units and in work of the Field Groups:

(i) Staffing Command Teams as appropriate to the degree and scope of the incidents.
(ii) Assessing the Situation - determining pertinent facts such as: the nature, size locations, probable movement, direction and speed of the spill; resources available; and areas likely to be impacted.
(iii) Supervising and monitoring efforts to have Polluter undertake the necessary actions to mitigate the impact and conduct proper environmentally sound clean-up.
(iv) Conducting detailed investigation to assess damage.
(v) Initiating and managing national mitigation efforts including establishing clean-up priorities and monitoring and control of expenditures.
(vi) Maintaining up-to-date and accurate flow of information to the (fill in).
(vii) Documenting all major actions and all costs and reports associated with the operation.
(viii) Other aspects (see the Plan).

(Fill in, e.g., Office of Disaster Preparedness - Deputy Governor's Office National Disaster Coordinator)

(i) Lead Agency
(ii) Provide liaison with sub-agents of (fill in), administration services, Disaster Committees and volunteers.
(iii) Activate, designate and staff with personnel, and manage EOC as appropriate.
(iv) Initiate and receive pollution information directly from local sources and other Lead Agencies during incident/operation or simulation exercise.
(v) Provide and coordinate communications networks as necessary for operation EOC/Government/OSC Ship/Shore, etc.
(vi) Arrange periodic simulation and training exercises, workshop and seminars as necessary for administrative, technical operational staff and field groups.
(vii) Arrange briefing and on-scene visits by (fill in, e.g., Governor, Chief Minister, other Ministers), Officials and Dignitaries.
(viii) Collaborate with (fill in, e.g., Tourist Board and others) on documentation and presentation, public relations and information materials.
(ix) Collaborate with (fill in, e.g. Civil Aviation) in collection and preparation of weather information for use by OSC, etc.

Police Force

(i) Assist in investigating incidents.
(ii) Provide surveillance/patrol craft - marine and air.
(iii) Provide On-Scene Commander Sea and support personnel as necessary.
(iv) Work with responders to ensure adequate security of response operations/sites
(v) When needed, provide escort service and/or expertise for movement of equipment

(Fill in)

(i) LEAD RESPONSE AGENCY
(ii) Provide On-Scene Commander
(iii) Provide:
    a. general scientific support personnel in collaboration with (fill in, e.g., National Parks Trust) and others.
    b. advice and material relating to natural resources and, in collaboration with Town and Country Planning Department and Tourist Board, analyzes the criteria for establishing priority/sensitivity ratings of impacted or threatened areas.
(iv) Respond to local oil spills, tar balls, flotsam, debris, etc. in coastal areas and waters outside ports and harbors. (Arrangements may be made with (fill in, e.g., Ports Authority) and others for dealing with spills inside harbors).

Port Authorities (or fill in)

(i) Provide operational and technical support.
(ii) Facilitate speedy handling and entry of personnel equipment and supplies travelling/arriving/departing by sea.
(iii) Provide short term storage for equipment and stores required in connection with and operation.
(iv) Provide marine craft and personnel as necessary and available.
(v) Collaborate in detention of any vessel involved in a pollution incident.
(vi) Prosecute offending vessels/personnel, as appropriate.
(vii) Respond to local pollution incidents in ports and harbors. (Arrangement may be made with (fill in, e.g. Conservation and Fisheries) and others in this regard).

Public Works Department (or fill in)

(i) Provide
   a. technical advice to OSC.
   b. technical support, personnel and equipment and general logistical support.

(ii) Supervisor of land/shore cleaning and disposal operation with mechanical equipment, etc.

Fire and Rescue Service Department (or fill in)

(i) Operational support to OSC
(ii) Provide personnel, materials and equipment as necessary and available.

Civil Aviation Department (or fill in)

(i) Report sighting of pollution (oil slick) and information on discharge source if known.
(ii) Organize surveillance missions to monitor progress of response and the behaviour of the spill.
(iii) Provide logistical support in the event that spraying of dispersant, etc. by use of aircraft is required.
(iv) Facilitate speedy entry and handling of personnel, equipment and supplies arriving by air.
(v) Provide weather information, analyzes and forecast to OSC.

Ministry/Department of Public Health (or fill in)

(i) Provide
   a. Advice on general health matters including dangers posed by toxic substances.
   b. Scientific support in collaboration with (fill in, e.g. Conservation and Fisheries).
(ii) Designate suitable site and agree on safe method of disposal of oil waste, residues and debris by burning, burial or other method; in conjunction with Conservation and Fisheries Department.

(Fill in)

Supervise legal aspects of the pollution incidents including:

(i) Legal counsel to OSC on operations matters.
(ii) Ensure the necessary evidence is properly documented for obtaining reimbursements of response costs, other damages and undertaking further prosecution.
(iii) Provide advice on the correlation between laws (national and international) and the Plan, so as to keep the Plan up-to-date and enhance its legal foundation.
(iv) Lead negotiations with any involved vessel and cargo owners, insurers and other bodies regarding claims, compensation and indemnity.
(v) Provide advice to victims of pollution damage.
(vi) Arrest of offending vessel if necessary, prosecution of owners/personnel.

Ministry of Finance (or fill in)

(i) Advice on all financial aspects of response.
(ii) Provide funding for the operation as may be necessary.
(iii) Assist in cost accounting, claims and compensation assessment.

Customs Department/Immigration Department (or fill in)

(i) Collaborate with other agencies and Departments to expedite due entry of personnel and equipment required for response.
(ii) Assist with the response itself through the participation/involvement of extra agents available to get out-of-country response equipment through customs quicker.

Tourist Board (or fill in)

(i) Liaison between OSC and owners/operators of resorts and tourism facilities impacted or likely to be impacted by pollution incident.
(ii) Collaborate with other agencies/departments assessing priority/sensitivity criteria for response/protection.
(iii) Participate and advice in public relation exercises.

(Fill in local oil company(ies))

(i) Provide technical advice, personnel and response resources as needed, if available.
(ii) Collaborate –when possible- with Lead Agency in simulation and training exercise and workshops.

(Fill in other oil company)

Responsible Party: Polluter

1. The preferable course of action is for the Polluter to undertake all necessary actions approved by the OSC.
2. The polluter will in any event be held liable for all costs and damage arising from or connected with a pollution incident.

Appendix E - Command Teams

Working/cooperating with the Responsible Party should be emphasized with ALL Command Team units, especially Operations and Environmental Impact Assessment. The RP is understood to be an important element of all the unit functions described below.

Command Teams: Units and Sub-Groups

1. The OSC may form a (Command) Team comprised of any combination of members as necessary and appropriate, and organize them as sub-groups or coordination units.
2. In the event that the Polluter has accepted operational responsibility, the command team will monitor operations under direction of the respective OSC.

Some of the Sub-Groups may cover:

Public Information Coordination (fill in, e.g., Communication, Tourist Board)

- prepare and update news reports
- handle press inquiries
- arrange news conferences for the OSC and other officials when necessary

Operations Coordination (fill in, e.g., Conservation and Fisheries, Police Marine Unit, Office of Disaster Preparedness, Public Works Department, Ports Authority, Fire and Rescue)

- supervise Government field monitors located at each work site, and enforce OSC's priorities and record resources used on daily activity sheets
- arrange regular OSC, contractor supervisor, and field monitor meetings
- charting behavior development and movement of pollutants
- plan next day's work and priorities as well as long term strategy
- arrange for added resources and logistics
- draft field operations reports (SITREPS) for the OSC on a regular basis
- maintain records of progress, work and cost

Communications Coordination (fill in, e.g., ODP and Cable and Wireless, Marine phone, Cable TV)

- arrange for necessary communication equipment
- coordinate flow of information between the clean-up sites and between OSC, EOC, Chairman and others as necessary
- maintain a communications watch during operational hours
- maintain a log of all communications

Marine Surveys and Inspections (fill in, e.g., Ports, Police)

- conduct damage surveys of vessel for the Government
- advise OSC on situation and comment on proposals of vessel representatives
- advise OSC on other marine, technical, scientific, environmental and operational issues
- advise OSC on storage handling and disposal of recovered oil, etc.

Administration Coordination (fill in, e.g., Treasury, Public Works, etc)

- negotiate contracts for necessary equipment and manpower
- authorize disbursements for local purchase
- collect invoices from contractors each day and compare to daily activities sheets maintained by field monitors
- arrange for logistical needs

Environmental Impact Assessment Coordination/Unit (fill in, e.g., Natural Resources, Conservation & Fisheries, Parks Trust, Town Planning, Health, Tourism)

- monitor total response and assess Environmental Impact Factors
- conduct environmental, ecological and economic damage surveys
- advise OSC on situation and suggest ameliorate action, comment on ship owners and contractor proposals/action
- advise OSC on methods and materials equipment to be used in clean-up; especially dispersants
- advise on handling, storage and disposal of waste, debris and residues, etc.
- establish priority/sensitive area prior to and during clean-up/response. Provide relevant maps and charts
- keep maps of priority/sensitive areas up-to-date
- general scientific advice

Appendix F - Support Organizations and Roles

The responsibilities of support organizations can be similar to Command Team roles but should not overlap. They may include:

Agency (fill in – examples provided)	Responsibilities (fill in – examples provided)
Environment, Fisheries	• advice on operations that affect natural resources, environmental issues, cleanup of coastline • scientific support and evaluate sensitivity of threatened areas • supervise cleaning of coastline and disposal
Naval and Air Forces	• marine and air surveillance, On-Scene Commander at Sea and support personnel, arrest/detention of offending vessel/personnel • monitoring and aerial logistic support
National Police, Main Directorate of Criminal Investigation	• assist in investigation incidents, arrest/detention of offending vessel/personnel, prosecuting ship owner/personnel • evacuation
Office of the Public Prosecutor	• legal aspects
Communications	• national telecommunications
Harbor Authority	• technical and operational support
Public Works	• terrestrial transport, infrastructure
Municipalities	• sewage system, potable water • firemen - provide personnel and equipment as necessary
Tourism	• liaison between OSC and tourist facilities impacted, help to assess priority/sensitivity criteria for response/protection, participate and advise in public relations
Ministry of Health	• health matters
Ministry of Finance	• financial advice, funds, accounting of costs, evaluation of reclamations and compensation
Customs and Immigration	• expedite entry of personnel and equipment required for response, deny outward clearance to any vessel, equipment or personnel involved in a pollution incident
Oil Companies	• expert advice and equipment

Appendix G - Organization Plan Chart

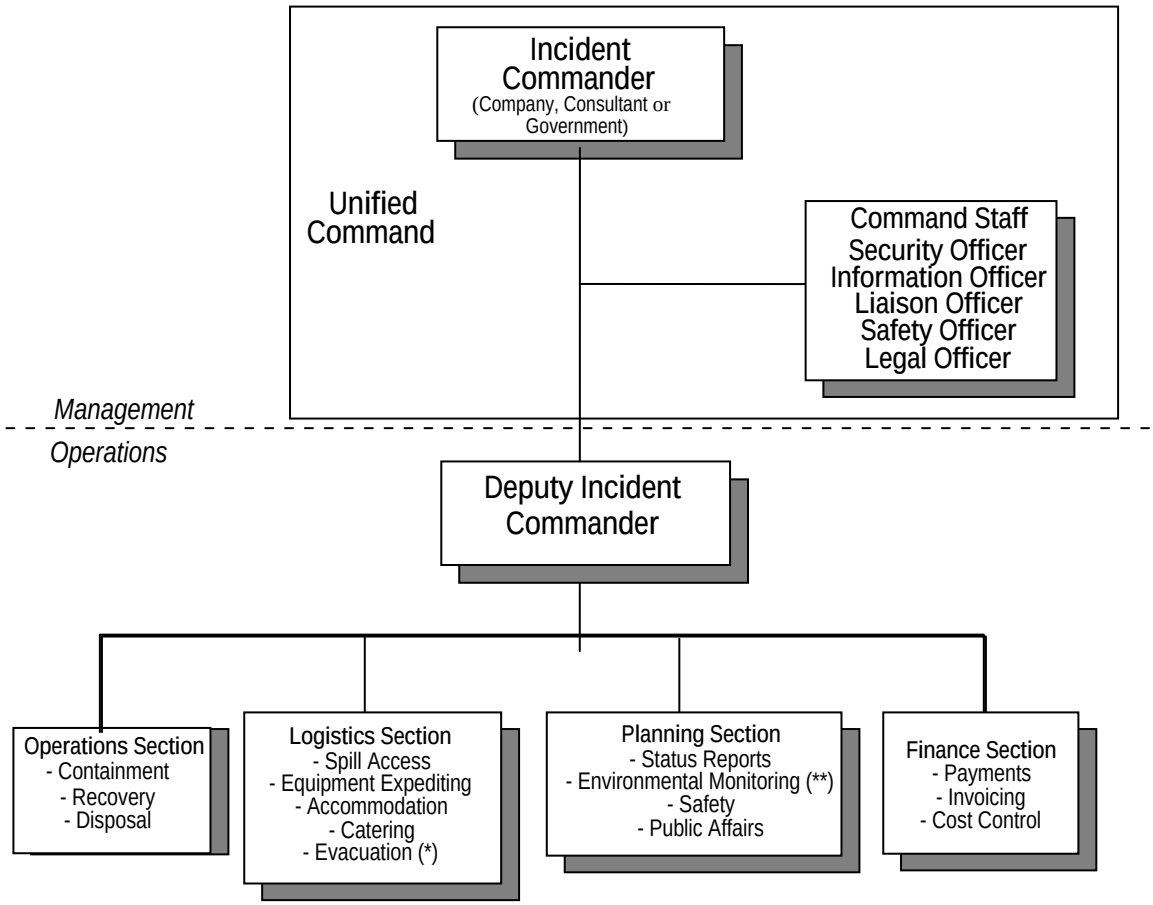
An organization chart clearly identifies individuals (according to positions) who will be involved in a spill response. It may also include administrative personnel responsible for documentation and financial aspects. An Incident Command System standardizes the process of preparing an organization chart (see below).

A decision is required as to which personnel should be part of an organization chart for any particular operation. Adjustments can still be made to the suggested information if training or an actual spill indicates changes are required. Consider also what external personnel requirements may be required for spills that are:

- large
- require a lengthy time for cleanup
- outside (country) geographical area of jurisdiction

The duties and responsibilities must be detailed for all positions that appear in notification and organization charts. For some types of operations it may be beneficial to identify the duties and responsibilities for each of the three designated levels of spills.

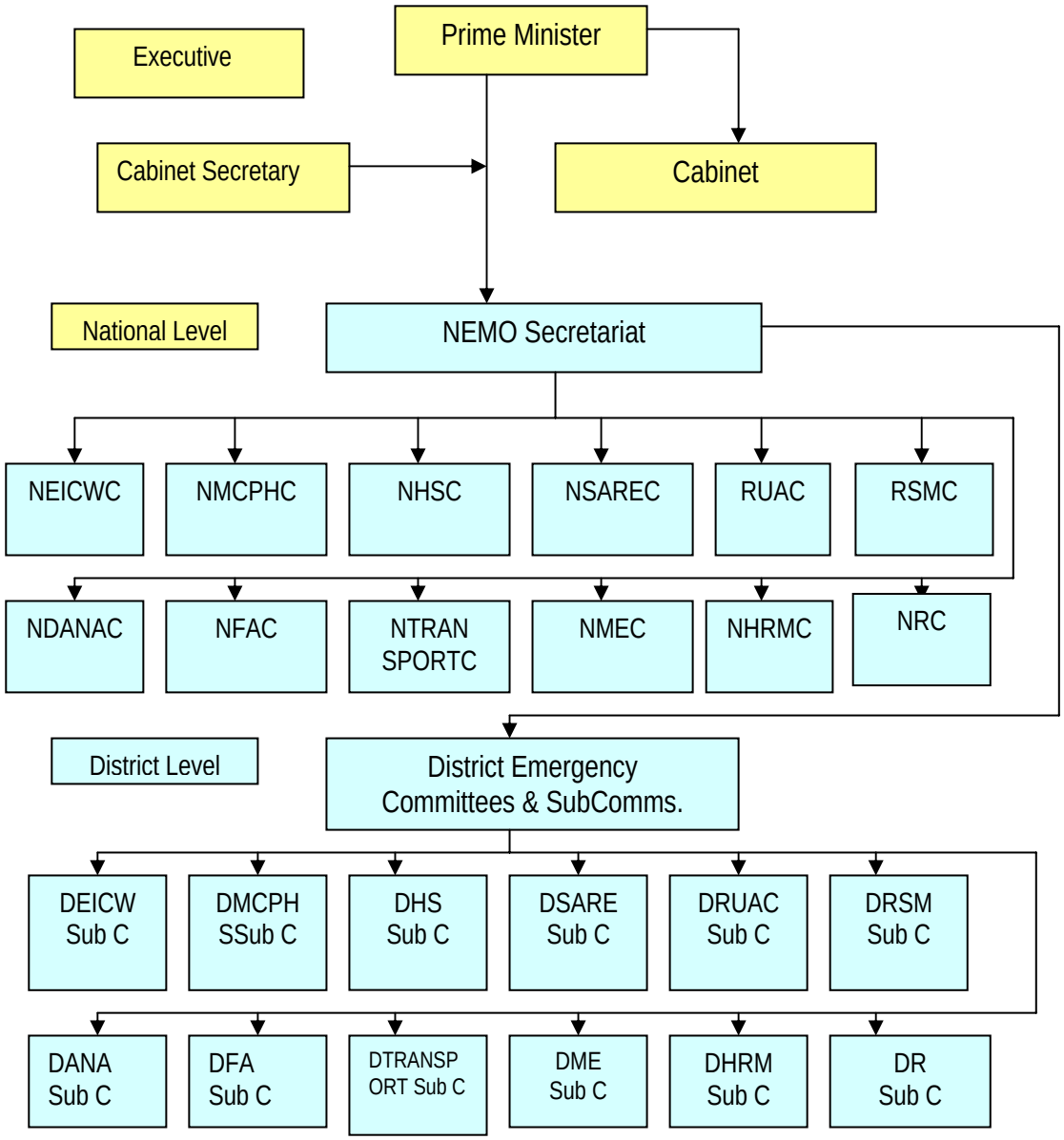
Example of an Incident Command System Organization for an All Risks' Contingency Plan



* Evacuation possibly coordinated by a government agency.
** Environmental Monitoring possibly coordinated by government department.

An example from the Belize National Plan is contained on the following page.

BELIZE HAZARD MANAGEMENT STRUCTURE - National Emergency Management Organisation (NEMO)

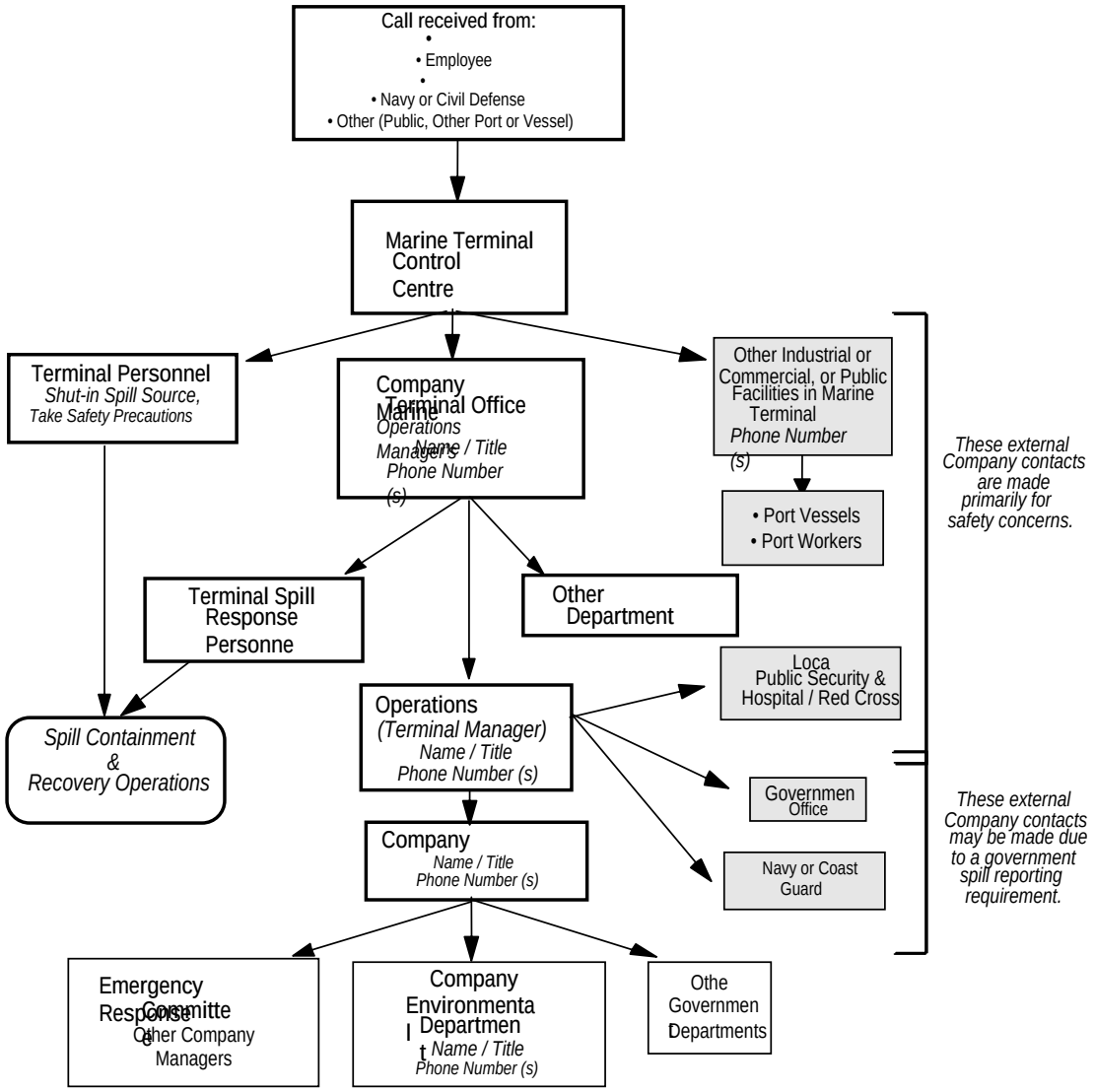


KEY:

N	- National Level
D	- District level
Sub C	- Sub-Committee
EICWC	- Information, Communication and Warning Committee
SARE	- Search, Rescue and Evacuation Committee
RUAC	- Restoration of Utilities and Access Committee
TP	- Transport Committee
HSMC	- Housing, Shelter Committee
DANA	- Damage Assessment and Needs Analysis Committee
MEC	- Mitigation, Environment Committee
RC	- Recovery Committee
FAC	- Foreign Assistance Committee
RSM	- Relief and Supplies Management Committee
HRM	- Human Resource Management Committee
MCPH	- Medical Care and Public Health Committee
NEMO	- NEMO Secretariat

Appendix H - Alerting Sequence

Example of a Spill Notification Chart for a Company Marine Terminal



Appendix I - Incident Command Post

A contingency plan should indicate where an Incident Command Post would be located in the event of a major incident. An alternate location is also advisable. Emergency personnel would use the Incident Command Post as a place to meet, plan and direct their activities. The Incident Command Post can also be used to house communications equipment and logistical planning information such as maps, charts, and reference books.

An Incident Command Post is usually identified and set up on a pre-spill basis. Companies and agencies that have operations concentrated in a specific geographical area, such as an onshore production field or a marine supply terminal, should consider identifying a dedicated Incident Command Post. The Incident Command Post provides several key elements:

- A known sheltered place where supervisory personnel can meet and discuss management issues relating to the cleanup.
- Communications equipment, both internal and external, including direct links to vessels, helicopters, and vehicles.
- Storage of reference materials such as charts, computerized sensitivity maps, and spill trajectory modeling systems.
- Possible first aid care.
- Dealing with the media

Companies/government agencies are expected to identify the location or potential locations of Incident Command Post(s) that would be expected to be used in an emergency incident situation. Indicate the intended personnel who would be located at the Incident Command Post and the method to contact them there.

Types of Incident/On-Site Command Posts

An Incident Command Post is usually set up in an existing building at a fixed, pre-determined location that supports many response-related functions. The distinction is sometimes made, as shown below, between it and more temporary accommodations that can serve as an On-Site Command Post usually located strategic to a spill site or response capabilities.

Type of Command Post	Advantages	Disadvantages
Incident Command Post		
Existing Building or Operations Room • Usually located at an existing facility.	• Familiar to personnel and administrative methods. • Negligible capital cost. • Reference information is readily available.	• Non mobile. Personnel may have to travel considerable distances between the Command Post and the spill site. • Centre may have other uses during normal operations; time may still be required to set up facility.
On-Site Command Posts		
Self-contained Mobile Facility • Includes buses, vans and trucks.	• Unit is mobile and ready at all times. • Not dependent on availability of contractors equipment for transport.	• Potential high initial cost. • Self mobile vehicle is maintenance intensive (unit includes vehicle mechanical).
Trailer • May be either tractor trailer or industrial trailer type. • Tractor trailer type preferred due to increased strength and clearance for rough terrain.	• Medium initial cost. • An existing trailer may possibly be retrofitted.	• Dependent on availability of contractors' equipment for transport. • Limited off road use. • Vehicle maintenance requirements for chassis and hydraulics.
Skid-mounted Building • Industrial type trailer mounted on steel skids.	• Transportable via several transportation methods including: flatbed, railcar, all-terrain transporter, helicopter. • Lower cost. • Low maintenance required for general upkeep. • Diverse off-road uses.	• Dependent on availability of contractors' equipment for transport.
Modular Kits • Fabricated panels of wood, sheet metal, fiberglass, or reinforced plastic.	• Transportable by air and smaller vehicles. • Low maintenance. • Can include all features of other options.	• Requires assembly on-site. • Can be damaged in transit. • Limited in size.
Tents	• Transportable by air and smaller vehicles. • Low maintenance.	• Limited operations in some weather conditions. • May limit the operation of computers and communication equipment.

Command Post Equipment

Equipment	Considerations
Power Supply	Compatible to area of intended operation. Power generator.
Furnishings	Meeting area, ample desk area for computers, map storage, fire extinguishers and other safety equipment, kitchen, exterior and interior lighting, sleeping facilities.
Communications	Phones: Conventional, mobile, cellular, satellite. Fax: Dual machines with capabilities for on-site usage via conventional, cellular or mobile phones. Public Address System Mobile Radios: Options include intrinsically safe operation, hands free, submersible, voice security scanner, charger units. Television

Appendix J - Public Relations

Media Relations personnel within government agencies should work with their RP counterparts in preparing and releasing news releases. This is critical in order for both the RP and the Government to be conveying a consistent message to the public.

Public Information

Media management and public information will be disseminated out of (fill in the Incident Command Post). The (fill in) and the Press Office will organize media releases and conferences as necessary. For emergency situations, such as announcements on danger to the local population, necessity of evacuations etc., the (fill in) will issue announcements on local media. All such releases should be approved by the OSC.

Sample Initial Press Release

An oil spill has occurred at (location) from (polluter, if known). It was discovered at (time and date). The following areas have been affected: (fill in)

Cause of the spill is being investigated by (fill in) and clean-up operations are underway by (fill in). The amount of product spilled is (amount) (or is not known, or is being calculated by the (fill in).)

Brief statement of operations being undertaken and by whom:

The spilled material is/is not considered to be a health hazard. The following precautions should be taken by members of the public in the (fill in area(s)).

Further updates will be given at (time, date).

Appendix K - Locally Available Oil Spill Response Resources

Examples shown in tables:

Boom		
Item	Quantity	Company/Agency and Location
OK Corral, 6 in. diameter, 12 in. skirt, in 50 ft lengths, with associated rigging equipment	600 ft	Company X, City
Zoom Boom, 18 in., self-inflating w/repair kit	800 ft	Navy, Port of XX
Tow Bridles, floating	2	
Anchors, 22 lb Danforth w/chain marker buoys and rope	2	
Assorted Fittings, Shackles		

Skimmers		
Item	Quantity	Company/Agency and Location
Manta Ray Skimmer, 5', c/w 2" Camlock outlet	1	Company X, City

Sorbents		
Item	Quantity	Company/Agency and Location
Sorbent Pads, 18" sq.	8 bags (200/bag)	Company X, City
Sorbent Rolls, 144' X 36"	4	Navy, Port of XX
Sorbent Boom, 4' X 8"	2 bags (4 /bag)	
Sorbent Wringer, 45 gal., drum mount top		

Pumps and Hoses		
Item	Quantity	Company/Agency and Location
Pump, 3" Honda emergency duty, w/hoses	1	Company X, City
Pump, 2" PACER self-priming, pneumatic drive	1	Navy, Port of XX
Suction Hose, 25' X 2" (w/floats)	2	
Discharge Hose, 250' X 4" (Camlock)	5	
Air Hose, 50' X ¾" (w/king fit)	2	

Storage		
Item	Quantity	Company/Agency and Location
Recovery Drums (55 gal)	5	Company X, City
Oil Resistant Bags		

Communications		
Item	Quantity	Company/Agency and Location
Radio Sets, portable h/held, intrinsically safe	4	Agency, City

Boats		
Item	Quantity	Company/Agency and Location
Work Boat, 14' aluminum w/9.9 HP o/b	2	Company X, City
Steel tug boat, 900 hp	1	
Steel dumb pontoon barges, 500 DWT	2	
Steel self-propelled cargo barges, Deckhouse fwd & flat open deck aft, DWT from 500 to 1000, Length 120 to 175 ft., BHP 800 - 1900	1	Acme Shipping, Port

Health and Safety		
Item	Quantity	Company/Agency and Location
Fire Turn Out Gear, complete sets	3	
Hazmat Response Encapsulated Suits, complete sets	3	
SCBA (Survive All)	3	
Gloves (PVC, Nitrile)	50	
Rubber Boots		

Miscellaneous Tools		
Item	Quantity	Company/Agency and Location
Shovels		
Emergency Lighting		
Generators		
Dispersants		
Item	Quantity	Company/Agency and Location
Chemical type	1000 L	Navy, City
Folding Tanks, include weight (empty and full)		
Equipment required for spraying		

Additional information to consider when selecting domestic equipment includes:

- Design or use
- Operational limitations (open sea or protected waters)
- Supplementary equipment required
- Time of mobilization
- Distance required to transport (aircraft landing facilities if transported by plane)
- Personnel and expertise required for operation
- Cost of acquisition or daily rent

(Country) should have the capability to effectively respond to an oil spill resulting from oil industry and shipping operations within its territory. For major spills, the country will require external assistance. The location of the pollution abatement equipment available in the Caribbean area is, for the most part, located in Aruba (Refinery of Valero Energy Corporation), Bonaire (oil terminal of Bopec), Curaçao (Isla Refinery, a PDVSA leasing), Puerto Rico, St. Croix (under the MSRC organization), St. Eustatius (Statia Terminals), Trinidad & Tobago and Venezuela. Additional equipment is available to the Caribbean area, on short notice, through a number of U.S. Commercial contractors. Clean Caribbean and Americas (CCA) holds stockpiled equipment in Fort Lauderdale, Florida for members use, and, under certain conditions, non-members use.

Appendix L - External Sources of Specialist Equipment and Personnel

Contact information is contained in Appendix A.

Marine Spill Response Corporation (MSRC)

MSRC is a private, independent, tax-exempt, not-for-profit corporation dedicated to the cleanup and mitigation of large oil spills in United States coastal, tidal and certain other waters. MSRC is establishing a program to use its best efforts to contain and clean up large oil spills that are beyond local response capabilities and where the U.S. Coast Guard is directing the response. MSRC operates five Regional Response Centers.

The closest Center to the Caribbean region is located in Miami, Florida and is primarily responsible for U.S. waters in the southeast and U.S. waters surrounding the U.S. Virgin Islands and Puerto Rico. The Regional Response Center serves to:

- warehouse, receive, store, deliver and expedite supplies, equipment and materials related to MSRC's spill response activities
- act as a training center for spill response personnel
- provide a site for testing supplies, equipment and material
- operate as spill response communications and command post

The center employs approximately 70 persons full-time in spill response, supplemented as needed during a spill by personnel from MSRC's other regions and headquarters, and other needed contractors. Current plans call for 5 pre-staging areas in the Southeast region where equipment and sometimes vessels and personnel will be located. St. Croix in the Virgin Islands is such a site with a 210' response vessel.

The primary purpose of MSRC is to provide a best effort response to major spills of oil in U.S. offshore and tidal waters, including bays and harbors. MSRC's operational posture under the Cartagena Convention and its Protocols concerning cooperation between Island States and Territories in the Wider Caribbean Region remains under study.

Clean Caribbean and Americas (CCA)

Formerly Clean Caribbean Cooperative (CCC)

The Clean Caribbean and Americas (CCA) is an oil spill equipment cooperative funded by member companies that operate petroleum facilities or transport persistent oils in and through the Caribbean basin. The CCA acquires, maintains, and trains member personnel on a stockpile of oil spill response equipment, materials and chemicals. The CCA stockpile is warehoused in Fort Lauderdale, Florida, USA and is principally intended to be air shipped to the airport nearest the spill site. The CCA's purpose is to provide stockpiles of readily available equipment, materials and chemicals unique to and required in oil spill clean-up operations. Equipment, materials, and chemicals that are readily available on the commercial market are for the most part not included in the stockpile.

Oil Spill Response Limited (OSRL)

Oil Spill Response Limited (OSRL) provides an oil spill response capability to its members through its contractor OSSC. OSSC resources include:

- equipment and expert personnel designed to respond credibly to two simultaneous spills of 30,000 tons anywhere in the world
- 450 tons of equipment, split 75% for a near shore capability and 25% offshore
- 38 expert staff located in Southampton, UK.

- one 50 ton capacity transport jet and one 20 ton C-130 transport which can be used for either freight and dispersant spraying (available on a 6 hour standby basis). The jet could arrive within the Caribbean area within 18-24 hours and the C-130 in about 36 hours.

OSRL is available to non-members subject to certain conditions (it is recommended that copies of conditions are obtained in advance to facilitate a rapid exchange of faxes). OSRL also has a significant training capability both in its Southampton base where some 800 places are available annually and at on-site training at customer locations.

Global Response Network

Global Response Network has been formed that represents a world-wide network of spill response centers including OSRL, EARL and MSRC.

For further info please contact Thomas Liebert (GRN Coordinator – Tel: (44-20) 7724-7203 or tliebert@osrl.co.uk)

Appendix M - External Sources of Expert Advice

Contact information is contained in Appendix A.

The Focal Point Agency for the Caribbean Island OPRC Plan to provide administrative assistance is:

International Maritime Organization, Regional Marine Pollution Emergency Information and Training Centre (Wider Caribbean) - REMPEITC-Carib.

Appendix N - Spill Response and Cleanup Strategies

This Appendix describes applicable oil spill response strategies. Details on how to perform the operations should remain in a reference manual or training program.

Identify general response strategies followed by specific strategies that are pertinent to the operations conducted in local areas. Use a table format if possible. Ensure that identified response strategies are included in training sessions.

To assist in deciding on the spill response strategies, develop spill scenarios that consider a range of "worst-credible" accidents leading to spills.

Demonstrate safety in oil spill response operations. Information from (fill in) safety program should be incorporated into this section. Items that can be considered include boat and dock safety, the use of personal protection equipment (PPE) and clothing, hazardous materials, and substance and alcohol abuse.

Considerations for Developing Spill Response Strategies

Planning & Logistics	Factors that influence the time to mobilize operations and the identification of associated response priorities.
Spills on Land	Containment methods for spills onto land to prevent further spreading and contamination of freshwater. Methods include diking, trenching and burning. This exercise is labor intensive and would require extra manpower to gather the beached oil. Where possible, heavy equipment from (fill in, e.g. Public Works Dept.) would be used. Tar balls from illegal spillages also require beach clean-up.
Spills on Water	Countermeasures operations for spills into water and the variation of the methods with various water (sea state) conditions. Options may include booming, skimming, removal, storage, dispersants and burning. Dispersant application involves the spraying of chemicals by aircraft or boat to accelerate the natural dispersion of the oil.
Spill Monitoring	Spill monitoring includes safety and occupational health conditions, existing and possible environmental threats. And for river and offshore spills, trajectory modeling.
Removal	Techniques for skimming and collection of oil released onto land or into water.
Transfer	Equipment needed to move collected liquids and solids to interim storage and disposal facilities.
Shoreline Cleanup	Response actions required in dealing with sensitive river bank and shorelines.
Control Points	Specific geographical locations, primarily on rivers, which provide for the pre-planning of staging and deployment locations for oil spill response equipment. Pre-identification required of access, work area size, boat launches, equipment storage, natural boom anchors, water depth, water speed, flow patterns and water hazards.
Post-Spill Activities	Personnel decontamination, equipment cleaning, spill debris disposal, and maintenance, debriefing and review of strategies following an incident.

Appendix O - Communication Arrangements

All government departments with fixed and mobile radio equipment will be linked into the EOC through the established Emergency Coordination Frequency. Persons outside this service will communicate on Marine Band until they are linked in.

In the event of an emergency, further detailed instructions will be as appropriate.

Appendix P - Use of Dispersants

As presented in the Caribbean Island OPRC Plan.

1.0 General Dispersant Policy for Island States and Territories

1.1 The Caribbean Plan envisions that each Island State or Territory will develop its own policy pertaining to the use of dispersants in its Exclusive Economic Zone (EEZ). The dispersant policy adopted by the State or Territory will be part of its National Contingency Plan.

1.2 Scientific studies over the past several years have shown that the new generations of dispersants, in themselves, exhibit low toxicity even at application concentrations ten times those prescribed. Studies have also shown that the concentration of dispersed oil in the water column drops off significantly at depths below three meters and, given reasonable flushing, dispersed oil does not remain in the area of application for any significant length of time as it is distributed and diluted by the currents. More or less, aggressive use of dispersants may be warranted. Each Island State and Territory is encouraged to establish guidelines based on its own environmental considerations and circumstances within its own territorial seas.

1.3 It is the position of the Island States and Territories that use of dispersants using the following parameters will cause no significant environmental harm from such use. It is the policy of the Island States and Territories that when combating spilled oil within its territorial seas, the OSC as authorized by the Lead Agency, may use dispersants without prior notifications to other Island States and Territories under the following parameters:

a. The area of application is not less than one nautical mile from any shoreline, nor closer than three nautical miles up-current from important marine fisheries or coral reef ecosystems which are less than 20 feet from the water's surface;
b. The water depth should exceed 10 meters (30 feet) in the area in which the dispersant will be applied;
c. The method of application is one recommended by the manufacturer;
d. The rate of application is as recommended by the manufacturer;
e. The dispersants, exhibiting low toxicity; and
f. The Lead Agency will notify potentially affected downstream Island States and/or Territories whenever dispersant use is intended to be conducted beyond its territorial seas.

1.4 In the event the OSC determined that the use of dispersants is necessary and if it is apparent that downstream Island States and/or Territories may be affected, then concurrence for such use must be obtained from the potentially affected Island States and Territories outside the parameters of section 10.3.3.

1.5 Response operations, including the application of dispersants, will not be conducted in the EEZ of another Island State or Territory without prior concurrence of the Lead Agency of that Island State and/or Territory.

1.6 During a dispersant operation, the OSC should determine the effectiveness of the dispersant application by on-scene observation and/or by laboratory testing. Application of dispersants should be discontinued if proven to be ineffective.

1.7 To establish an updated list of dispersants stockpiled in the region, each Island State or Territory will submit to the Focal Point Agency (IMO Regional Consultant) the quantity, size of storage containers, brand name, type, and location of storage. (Example: 12-55 gal. plastic lined drums of Corexit 9527). The updated information will be submitted on an EQUIPMENT/DISPERSANT LOCATION page for insertion in Chapter 5 of the Caribbean Plan.

2.0 Application of Dispersants

2.1 The best combination of dispersants and application method must be selected for the specific situation. On the open sea they can be applied from surface vessels and from aircraft. It is very important to use proven equipment which has been properly calibrated and to follow the instructions of the suppliers of equipment and dispersants.

2.2 Spraying operations should be started as soon as possible after it has been decided that dispersant use will form part of the response. Many oils will form stable water-in-oil emulsions (chocolate mousse) of which the viscosity will be higher than that of the original oil. The extent of emulsification and the stability of the emulsion will depend upon the type of oil, sea state and temperature. The viscosity also increases because of the evaporation of lower molecular weight hydrocarbons. Both processes may have taken place to a considerable extent within a couple of hours after the spill and thus dispersant effectiveness may be reduced if application is delayed. After oil has emulsified into mousse, it is very difficult to disperse. Treatment with dispersants should, therefore, start before the mousse formation or extensive weathering has taken place.

2.3 Supplying an adequate quantity of dispersant to deal with a large spill can often be a problem. Spill response managers should include in their contingency plans an inventory of suitable dispersants and should be aware of how this supply can be augmented from additional resources. In the event that the supply is inadequate, spill response managers should prepare to use a combination of response techniques.

3.0 Operational Use and Application of Dispersants

3.1 In general, dispersants are applied either by surface vessels equipped with dispersant spray booms and support equipment (pumps, hoses, dispersant drum/tank) or by aircraft (fixed-wing or helicopter) using specially designed spray equipment and systems. In general, dispersants are only minimally effective when applied by means of fire monitors. Proper use of dispersants requires the appropriate dosage in terms of amount of chemical per unit area, such as gallons per acre, litres per hectare, etc. The dosage is extremely variable and depends on the type of dispersant, type of oil, slick thickness, temperature, viscosity, and other characteristics of the spilled oil. The actual flow rates are a function of the vessel/aircraft speed, the pump capacity, the dilution rate, and the effective swath width covered.

3.2 Surface Application. Most surface dispersant spray systems existing in response inventories utilize a reduction pump system that dilutes a dispersant concentrate with seawater before being sprayed on the surface through multiple-nozzle spray booms. Mounting spray booms ahead of the vessel's bow wave and wake assist in proper application of the dispersant to the oil. Vessel spray and pump system flow rates must be periodically calibrated to assure the desired dosage. Despite improvements in vessel spraying equipment, the technique will always have some limitations, due to the low treatment rates and inherent difficulties of location oil slicks from a vessel.

3.3 Aerial Application. In contrast, aerial spraying offers the advantages of rapid response, good surveillance, high treatment rates, optimum use of dispersant and better evaluation of dispersant treatment.

Appendix Q - In-Situ Burning

As presented in the Caribbean Island OPRC Plan.

1.0 In-Situ Burning

1.1 In-situ burning is another tool for oil spill response. There are limitations on its effectiveness as presented below. There are also health concerns from the resultant smoke; however, recent studies indicate these health concerns may be negligible except immediately downwind of burning oil.

1.2 It is the policy of the Island States and Territories that there is no objection to the use of in-situ burning as a response tool when the burn will not be closer than 12 miles from any adjacent Island State or Territory. Should the OSC desire to use in-situ burning at lesser distances from adjacent Island States or Territories, prior concurrence must be obtained from the Lead Agency of said Island States and/or Territories. In-situ burning shall not be undertaken without due consideration for the safety of all personnel.

2.0 Technical Information on In-Situ Burning

2.1 Recent research indicates that controlled in-situ burning of spilled oil may be a practical means of removing substantial amounts of oil from the water surface under some circumstances. Considerations in use of in-situ burning include:

a. Containment of oil
b. Weathering prior to ignition
c. Ignition
d. Maintenance of burning
e. Smoke which is produced
f. The environmental consequences of burning
g. Collection and disposal of the residue and
h. Wind and sea conditions.

2.2 If in-situ burning is successful, it may be possible to remove over 90% of the oil from the water surface.

2.3 Containment of the oil by means of a boom to a minimum of 3mm thickness is necessary for ignition. Fire-resistant booms for containment while burning are commercially available but are expensive.

2.4 Weathering of the oil can make it difficult to ignite. If the oil contains more than 20% water, special techniques of ignition will be needed. Most oils appear to be ignitable even though weathered unless they contain emulsified water; an exception can be highly refined heavy products such as asphalt.

2.5 Igniters that are available include:

a. The Helitorch (helicopter-transported device for ejecting burning gelled gasoline (napalm) onto the oil surface
b. Incendiary devices developed by Environment Canada
c. Such simple means of ignition as use of burning rags or burning oil-soaked sorbent masses.

2.6 Maintenance of burning. Oil will continue to burn after ignition until it is about 1mm in thickness, after which it will self-extinguish.

2.7 Smoke that is produced will likely be on the order of 10% by weight of the oil which is burned. The smoke particles appear all to be less than 10 microns in size. Observation and mathematical modeling indicate that the smoke will rise rapidly owing to heat and rapidly become diluted. Smoke from a 3,500 gallon burn becomes non-visible about 10km from the fire.

2.8 The environmental effects of burning appear to be minor or negligible within a few hundred meters down-drift from the burn pool. Concentrations of particulates are less than the US National Ambient Air-Quality Standards. There are no dioxins or benzo-furans produced, and the concentrations of poly nuclear aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs) are low. Heating of the water surface appears to be limited to the first few centimeters at most. The residue from burning is highly viscous but, in most cases, floats on the water surface. However, in a few cases the residue from burning has sunk.

2.9 Collection of the burn residue can be relatively simply effected by use of nets or other mechanical devices, and it may be disposed of by burning.

2.10 The limits of wind and sea conditions for burning have not yet been established, except that it will be difficult to ignite the oil if the wind speed is too high. The limit of wind speed will likely depend on the degree of weathering. For a freshly spilled light crude oil or light product, the limiting wind speed is likely to be on the order of 20 knots. If the oil is heavier or highly weathered, the limiting wind speed will be less.

Appendix R - Sensitive Areas

The National Oil Spill Contingency Plan should identify all sensitive areas reflecting different national interests: environmental (mangrove, coral etc.); commercial (tourist areas, marinas, etc); cultural and industrial (desalination plants, aquaculture, refineries, etc.). Supporting maps and other data should identify protection and response strategies relating to these sensitive areas. The Response Agency, in concert with the National Fisheries Department, should identify areas where dispersants can, cannot or might not be used. The On-Scene Commander will then have advance information for choosing a course of action when fishing grounds are threatened. In contemplating response activities offshore, the use of dispersants will be a viable consideration and the use of pre-planned sensitivity maps will reduce the risk of disagreement and indecision when faced with difficult decisions during an oil spill emergency.

1 An example from El Salvador Plan follows:

PORT OF ACAJUTLA

1.1 Types of beach

The coastline bordering the Port of Acajutla is partly composed of sandy beaches (Metalío, Costa Azul, Barra de Santiago). East of the port are rocky beaches (El Almendro, Club Salinitas, Cóbanos, and El Flor). In the zones of Metalío and Barra of Santiago and east of Acajutla there are mangroves of significant importance.

1.2 Socio-economic

Port of Acajutla is the main port of the country, where a high percentage of the imported and exported merchandise is transported. It is also counted on as a fishing wharf for the boats of the artisan fishermen in the neighborhoods of the harbor wharf of the Independent Harbor Executive Commission [Comisión Ejecutiva Portuaria Autónoma (CEPA)] and can be affected by a spill within their jurisdiction.

1.3 Ecosystem

The ecosystem of the industrial area of the Port of Acajutla contains coral reefs (the Cóbanos) and towards the west there is a salty forest (mangrove located in the zone of Metalío).

The ecosystems of the zone can be classified into four categories: sandy beaches, rocky reefs, mangroves and open sea.

Sandy Beaches
Characterized by the presence of fine or heavy sediments. Animals present are: snails of the Olividae family; worms of the polychaeta group, crustaceans such as achiqueiles; birds, such as fan-tailed warbler, sandpiper, hook-billed kite, pelicans, nesting areas of the turtles and leatherback sea turtle. The characteristic flora in the driest part is composed of the bell of beach and yellow flower. They are located in Barra de Santiago, Metalío, Costa Azul, Barra Salada.

Rocky Reefs

Characterized by the presence of rock in its inter-tidal zone and also in sub coastal zones (covered permanently by water). The main fauna is composed of: crustaceans such as crabs, lobsters, sand dollars, hard and soft corals, oysters, sea-cucumbers, and star fish; fish like the mere ones, porgies, barracudas, sharks and marine turtles. The flora is composed by a great diversity of marine seaweed. The rocky reefs are very rich zones in flora and fauna. They are in the zone of the Cóbanos.

Mangroves

Ecosystems influenced by a fresh and salty water mixture, with marshy areas, to which certain vegetative species including mangrove Colorado have been accepted: black mangrove, mangrove avicennia bicolor and button mangrove. Characteristic animals: shells, clams, tihuacales, punches, silver-plated, sardines, trevally, snappers, shrimps, catfishes, Mullet. There are important mangroves at Barra de Santiago, Metalío, and Barra Salida.

Open Sea

This includes the surface zone, the water column and the bottom. Characteristic fauna: squid, tuna, sharks, marlin, and trevally. Also dolphins, marine turtles, and pelicans circulate. Bottom life includes shrimps and prawns.

With regard to environmental sensitivity maps, the most sensitive zones to a spill are beaches of low depth, mangroves and the rocky zone the east of Acajutla. Cleanup operations are very delicate, since the use of equipment and men can cause infiltration of hydrocarbon to the bottom zone, which would increase their degradation still more. Sensitivity of sandy beaches increases with grain size of sediment.

1.4 Tourism

The marine coastal zone of the Port of Acajutla is important to local and international tourism, constituting one of the main sources of entrance of the population. It counts on the private beach sectors (Salinitas, Blue Coast) and public beaches (Metalío, Acajutla, Los Almendros and the Cóbanos).

Example from Nicaragua National Plan:

CRITERIA FOR THE DETERMINATION OF ESPECIALLY SENSITIVE AREAS AND ZONES OF SPECIAL PROTECTION

1. Characteristics that contribute to give a zone special importance.

1.1. Ecological Criteria

1.1.1. Singularity: The ecosystems are unique or uncommon. A zone is unique when there is more no more than one in its class.

1.1.2. Dependency: The ecological phenomena of a zone depend to a great extent on the biota of the systems. Frequently, such ecosystems of biota display a great diversity that depends on the structure of the constituent organisms. The dependency also includes zones that include the migratory routes of fish, marine reptiles, birds and mammals.

1.1.3. Representative character: The zone is extremely representative of the ecological phenomena, the types of community, or habitat or other natural features. The representative character is the degree in which a zone represents a type of habitat, ecological phenomenon, biological community, characteristic topography or other natural terrain feature.

1.1.4. Diversity: The zone counts with a great diversity of species or includes a varied wealth of ecosystems, habitats, communities and species. However, this criterion can not be applicable to certain simplified ecosystems, such as communities in initial or extreme state of evolution, nor to zones submissive to destructive forces, such as the coasts exposed to the violent action of the waves.

1.1.5. Productivity: The zone presents/displays a great natural biological productivity. The production is the result of biological processes that culminate in a net increase of the biomass in zones of great natural productivity, such as oceanic fronts or zones of ascending currents.

1.1.6. Natural character: The zone has a high natural character as it has been protected from disturbances and degradation caused by human beings.

1.1.7. Integrity: The zone constitutes a functional biologically unit, that is to say, a viable independent ecological. As it is self-sufficient, it is the zone, from the ecological point of view, that should be protected.

1.1.8. Vulnerability: The zone is very susceptible to the degradation caused by the natural phenomena or the human activities. The biological communities of the coastal habitats can present/display a low tolerance to the changes in the environmental conditions, or can exist near their tolerance boundaries (determined by the temperature, salinity, turbidity or depth of the water).

They are exposed to natural disturbances like storms or prolonged emersion that determine the limits of their development. Other unfavorable conditions (like the contamination for domestic and industrial origin, excessive reduction of the salinity and increase of the turbidity caused by a bad management of the river basin) can determine if the zone is going to recover, total or partially, from the effects of the natural disturbances, or if the zone is going to be totally destroyed.

1.2. Socioeconomic and Cultural Criteria

1.2.1. Economic advantage: The zone has essential importance to take advantage of living marine resources.
1.2.2. Recreation: The zone offers a particular interest for recreational activities and tourism.
1.2.3. Human dependency: The zone is particularly important for the cultural and traditional necessities of subsistence of the local human population.

1.3. Scientific and Pedagogical Criteria

1.3.1. Investigation: The zone has great scientific interest.
1.3.2. Basic studies and monitoring: The zone reunites the appropriate basic conditions with regard to biota or to the environmental characteristics.
1.3.3. Education: The zone offers the opportunity to demonstrate certain natural phenomena.
1.3.4. Historical value: The zone has historical or archaeological importance.

2. Factors that Contribute to the Vulnerability of the Zone

2.1. Some oceanographic and meteorological factors could make a zone vulnerable, or increase its sensitivity. For example, causing the concentration or retention of detrimental substances in waters or sediments of the zone, or causing exposure to the detrimental substances. These conditions include particular types of water circulation, such as oceanic convergence zones, oceanic fronts, or prolonged residence time as a result of low rates of dispersion, and an unfavourable stratification by permanent or seasonal water density that can lead to an impoverishment of oxygen in the bottom layer.
2.2. A zone whose environment is subject to tensions produced by human activities or by natural phenomena (for example, hydrocarbon infiltration), can need special protection against later tensions, including the derived ones from marine activities.

3. Other Considerations

In order to designate a zone as specially sensitive and to consider what special protective measures need to be adopted, it must be had in account the positive degree in which already adopted they indicate the necessity of additional measures of special protection and effects which they will have, taking into account the environmental stresses originating from other sources.

NICARAGUA CRITERIA FOR THE DETERMINATION OF CRITICAL AREAS

Example from Nicaragua National Plan:

These are the zones of the marine, fluvial, and lacustrine coast of the country where three characteristics are superimposed simultaneously:

Its marine or coastal resources have a high commercial, industrial, ecological or tourist value.

The resources are sensitive to the massive presence of hydrocarbons or hazardous substances that is to say that could considerably be affected by a spill.

It is a zone of high risk of occurrence of incidents by the characteristics of the navigable route, or the frequency of the transit.

It is important to indicate that the absence of one of these factors is enough so that the zone cannot be classified as a critical area. For that reason, the concepts of sensitive areas should not be confused with ones, of high value or high risk with the concept of critical area.

These critical areas or high-priority areas are by definition require special protection, because of the occurrence of a spill in them could produce serious damages that in some cases could be transformed into a local catastrophe. The existence of critical areas will be the determining factor to develop the response capability.

Appendix S - Risk Assessment

Provide description of risks, including oil traffic (land/water), platforms, pipelines, and terminals.

The waters that are most threatened in (country) are:
(include name, location, and brief description)

Example from Panama National Plan:

Due to the construction of the Panama Canal, the Republic of Panama is positioned as a significantly important marine route in the world, entailing at present 9976 ships registered under the nation's flag and with a volume of 1192 million gross tons. This special condition results in Panamanian waters, including the Gulf of Panama, to become places of risk for marine transport and prone to spills or discharges of all types of oily residues from ships.

On the Pacific side of Panama, the main polluting sources by petroleum hydrocarbons originate from marine traffic in the Panama Canal, handling of petroleum by the Transistmico Pipeline and the harbor activities of the Ports of Vacamonte, Balboa, and Cristóbal.

At the Canal's Pacific terminal of the Port of Balboa, 2.5 million tons per year of petroleum are handled that re-supply approximately 1900 vessels. Two million barrels can be stored in 54 tanks in areas immediately adjacent to the Canal.

In the Port of Vacamonte, 20 km from Balboa, 1,130 tons per year of used lubricants are handled of which 500 tons are spilled. In this port, there are 400 shrimp boats, both Panamanian and foreign bolicheros and tuna boats. Another source of potential petroleum contamination is the Transistmico Pipeline, with a capacity of 700,000 barrels/day. The pipeline crosses the provinces of Carriquí and Bocas del Toro and extends 130 km transporting Alaskan tanker crude oil from the Pacific to the Caribbean. According to data from the Department of Control of Contamination of the Maritime Authority of Panama, MAP, the following statistics are of oil spills in the superficial water bodies in the Republic of Panama. Due to above exposure, the Republic of Panama must count on a responsible institution and an updated National Contingency Plan to address petroleum spills within its jurisdictional waters.

Appendix T - Training and Exercises

The members of the Plan, at each level, will have periodic and regular exercises that involve (fill in Lead Agency) to familiarize themselves with the operative procedures of the emergency response. The (fill in Lead Agency) should also coordinate its training exercises with any local industry exercises.

- A technical report must be submitted following each exercise, with the intention of making pertinent corrections to the Plan.
- Monthly: Persons in charge of plans distribute response operation planning information to relevant personnel.
- Bimonthly: Response equipment field exercise with oil companies and communications exercise.
- Semester: Each Local level, with the participation of the National level, will conduct a pollution simulation exercise in its jurisdiction.
- Annually: (fill in Lead Agency), in conjunction with Support Agencies, will implement an exercise that involves national and international notification procedures and communications to facilitate the importing of resources and personnel.

Appendix U - Equipment Staging Areas

Staging areas have been selected to accommodate various modes of transportation including overland, air and water. Each location has the means to move equipment and materials quickly and efficiently. These locations have been selected so that they are strategic to coastal terminals and main shipping routes where there is the highest risk of spills. Main receiving areas of equipment are:

Airports include: (fill in)

Port facilities include: (fill in)

Main roadways are: (fill in)

The primary staging areas are: (fill in)

In addition, facilities will be able to accommodate the preparation, fuelling (as appropriate), deployment, retrieval, and decontamination (where and if appropriate) of the following countermeasures:

- Containment (booms, ropes, chains, anchors, sorbent booms)
- Removal (skimmers, power packs, hoses, connectors, sorbents)
- Transfer (pumps, hoses, connectors, power units)
- Storage (containers, membranes, tanks)
- Dispersion (dispersants, spray arms and buckets, connectors, other fittings)
- In situ burning (as appropriate – aircraft, Heli-torch, gel, fire-resistant boom, igniters)

Appendix V - Cross-Boundary Movement of Equipment and Personnel

As presented in the Caribbean Island OPRC Plan

This Appendix is highly important since the procedures outlined below should expedite the movement of equipment and personnel into a country during a significant oil spill emergency.

1. Procedure for Inter-country Movement of Personnel and Equipment

1.1. If after an assessment of the oil spill casualty by the affected Island State or Territory it is decided that assistance is required from a neighboring State or Territory; a CARIBPOLREP message shall be issued. The responding State or Territory will respond with an acknowledgement that equipment and operating personnel can or cannot be provided.

2. Personnel

2.1. To expedite the entry of emergency personnel into the requesting State or Territory, the acknowledgement message to the requesting State or Territory shall list all personnel by name and pertinent passport information. The message shall also include the mode of transportation such as flight numbers, vessel name, port of entry and estimated time of arrival. The requesting State or Territory, upon receipt of the information, shall make all arrangements for entry of the emergency responding personnel with the National Immigration Department. Arriving personnel will report to the On-Scene Commander and, until released, shall follow his directions and strategies. Each Member State or Territory shall have designated personnel who can be spared to assist the other member States or Territories in case of emergency situations. Passports and other travel documents of these designated personnel shall be kept up-to-date and ready at all times.

3. Equipment

3.1. The requesting Island State or Territory shall itemize the equipment that it desires to be transferred to the spill site or port of entry by referencing the type, name, size, etc., from the information available in the Equipment Section of the Caribbean Plan. The responding State or Territory will contact the owner of the equipment and determine the availability of the equipment and so advise the requesting State or Territory.

3.2. When the equipment has been assembled for shipment, the responding State or Territory will notify the requesting State or Territory of the mode of transportation and the estimated time of arrival at the spill site or port of entry. Ownership of all equipment will be clearly identified by labels indicating owners name and address.

3.3. The requesting State or Territory, upon receipt of the information that the equipment is ready for shipment, shall notify the national customs department for entry of the equipment without assessment, duty payments or unnecessary delays.

3.4. When the requesting country has finished with the equipment, it will clean each piece of equipment and make any necessary repairs to ensure that the equipment is returned to the responding country in good working order. The equipment will be inventoried against the shipping documents, noting any missing or excessively damaged equipment. After the equipment has been returned, the Lead agency will arrange for the equipment to be returned to the owner. The owner will make a final inspection of the equipment and promptly notify the Lead Agency of any discrepancies.

Appendix W Financial Procedure for Movement of Personnel and Equipment

This Appendix is –also- highly important since the procedures outlined below should expedite the movement of equipment and personnel into a country during a significant oil spill emergency.

As presented in the Caribbean Island OPRC Plan

1. Personnel

1.1. The Caribbean Plan envisions the movement of specialized personnel between member States or Territories who are trained to operate pollution abatement equipment. These personnel may be qualified as skimmer operators, dispersant equipment operators, flight crews for dispersant spraying aircraft or as operators for other technical equipment. The Caribbean Plan does not envision the inter-country movement of unskilled personnel but, in the event a need arises for a labor force to be moved inter-country, they can be mobilized under the Caribbean Plan. Unless special arrangements are made between the Lead Agencies during the time of mobilization concerning the funding associated with the movement of personnel, the following procedures will be adhered to.

1.2. After an agreement is reached between the Lead Agencies as to the number and qualifications of the personnel needed to assist the requesting State or Territory, the responding State or Territory will purchase round trip airfare tickets to the requesting State or Territory for the responding personnel. Wages for the assisting personnel will be paid by the responding State or Territory for the duration of the time the personnel are away from their Home State or Territory or place of normal employment.

1.3. All living expenses for the responding personnel will be paid by the requesting State or Territory who will be responsible for subsistence and quarters for the responding personnel. Unless otherwise agreed between the Lead Agencies of the requesting and responding States or Territories, the normal length of stay for personnel working away from their home country will not exceed 60 days.

1.4. When the responding personnel return to their normal place of employment, the responding Lead Agency will prepare an invoice for services rendered in keeping with its published price list. The invoice will include the transportation cost associated with mobilization and demobilization of the responding personnel. All personnel will be listed on a Daily Work report which will indicate job title, hours worked, hourly rate, and other incurred expenses.

1.5. The Lead Agency of the responding State or Territory will submit the invoice for personnel services to the Lead Agency of the requesting State or Territory, who will make prompt payment. The requesting State or Territory will, in turn, include the paid invoice from the responding State or Territory in the final invoice, which will be submitted to the spiller or his insurance carrier for reimbursement.

1.6. In the event any personnel are injured or become ill, the requesting State or Territory will be responsible for all the expenses incurred while in its jurisdiction and for other expenditures involved in the repatriation of injured or ill personnel.

2. Equipment

2.1. The Caribbean Plan envisions the inter-country movement of specialized equipment which may be located at various sites within member States or Territories. After a request has been received from the Lead Agency of the requesting State or Territory and agreed to by the Lead Agency of the responding State or Territory, the responding State or Territory will make all arrangements for the transportation of the pollution abatement equipment to a place of disembarkation. When all of the equipment has arrived at the mobilization areas, the responding State or Territory will arrange for further air or sea transportation of the equipment to the spill site or other agreed upon destination. All equipment will be clearly identified as to the owner and storage location, as equipment may become commingled with equipment from a number of sources.

2.2. The Lead Agency of the responding State or Territory will prepare an invoice for use of the equipment, including all mobilization and demobilization cost. Rental rates for the equipment will be shown on a Daily Work Report which will correspond with the published price list as shown in the National Contingency Plan. Any missing or severely damaged equipment will be listed on the invoice. The complete invoice for the use of the pollution abatement equipment will be forwarded to the Lead Agency of the requesting State or Territory, who will make prompt payment to the responding State or Territory. The Lead Agency of the requesting State or Territory will include the paid invoice from the responding State or Territory in the final invoice, which will be submitted to the spiller or his insurance carrier for reimbursement.

3. Obligation to Pay for Services Rendered

3.1. In all cases, unless other arrangements have been agreed to, the requesting State or Territory is obligated to pay the responding State or Territory for their cost of mobilization and demobilization of personnel and equipment, including the wages for responding personnel and the rental rate for the equipment requested.

Appendix X - Conventions, Agreements and Laws

(Country) is signatory to the following International Conventions and Agreements:

- Cartagena Convention and its Protocols
- Marpol 73/78 III IV V VI
- International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969
- Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil, 1973
- International Convention on Civil Liability for Oil Pollution Damage, 1969 ("1969 Liability Convention" or "1969 CLC")
- 1992 Civil Liability Convention (or "CLC 92")
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 ("Fund Convention, 1971")
- International Oil Pollution Compensation Fund, 1971 ("1971 IOPC Fund")
  - set up pursuant to the 1971 Fund Convention
- 1992 Fund Convention (or "Fund 92")
  - *In 1992 a Diplomatic Conference at the IMO adopted two Protocols amending the 1969 Liability Convention and the 1971 Fund Convention. These amended Conventions, which are known as the 1992 Civil Liability Convention (or "CLC 92") and the 1992 Fund Convention (or "Fund 92"), entered into force in May, 1996. They provide higher limits of compensation and a wider scope of application than the original Conventions*
- International Convention On Oil Pollution Preparedness, Response And Co-Operation, 1990 (OPRC 90)
- OPRC-HNS Protocol 2000
- Convention on Liability and Compensation for Damage in Connection with the Carriage by Sea of Hazardous and Noxious Substances (HNS Convention).
  - an IMO Diplomatic Conference adopted the HNS Convention in May 1996.
- International Convention on Salvage, 1989
- SOLAS 1974, modified by the Protocol of 1978 (1978 SOLAS Protocol)
- International Convention on Load Lines, 1996 (LL 1996)
- United Nations Convention on the Law of the Sea, 1982 (UNCLOS)
- International Convention on Standards of Training and Watchkeeping for Seafarers 1978 (STCW 1978)

This Plan is also linked to the following National Plans:

Complementary Laws and Legal Instruments

In addition, the following laws are relevant to the control, regulation and sanctioning of marine contamination.

Examples below are taken from the Panama National Plan:

- Decree Law No.7 of 10 February 1998, by which the Naval administration of Panama is created.
- Administrative Resolution No.80 of 24 July 1984, by which the Commission of Contamination is created.
- Complementary protocol for the Agreement on Regional Cooperation for the Fight against Pollution of the Southeast Pacific by Hydrocarbons and other Dangerous Substances in Emergency Situations.
- Agreement on Regional Cooperation for the Fight against Pollution in the Southeast Pacific by Hydrocarbons and Other Dangerous Substances, in Emergency Situations

- Protocol for the protection of the Southeast Pacific against Pollution from Land-Based Sources.

Appendix Y - Preparation of Local and Facility Plans

This Appendix should serve AS A GUIDELINE ONLY and is not intended to be overly "prescriptive". It is recognized that most industry facilities have spent considerable effort and resources in putting together their emergency response plans and testing them. Governments should not expect industrial facilities to rewrite their plans to meet new formatting requirements. As indicated, it is not considered to be either desirable or practical to develop a standard content and layout for a local plan. It is recommended that companies refer to the documents indicated.

Operation- and location-specific contingency plans must be developed in addition to the National contingency plan. These plans are required to satisfy regulations and/or international standards such as the International Maritime Organization (IMO). Specific types of contingency plans are:

- remote facility locations
- shipboard oil spill plans
- large processing or production facilities

The contingency plan should reference and contain a brief summary of any other company specific plans. Details of any specific plans do not need to be included in the main plan. It should also reference the specific plan in the notification section of the main plan.

Contingency plans will, of necessity, be ship or company specific and it is therefore not considered to be either desirable or practical to develop a standard content and layout; however, there are guidelines that have been designed to help in the preparation of Local and Facility Emergency Plans in cases of contamination by hydrocarbons and other potentially dangerous or injurious substances (e.g., ARPEL Guideline on *Oil Spill Contingency Planning and Management* (1997), IPIECA's *Guide to Contingency Planning for Oil Spills on Water* (2000), IMO 586E (A) *Guidelines for the Development of Shipboard Marine Pollution Emergency Plans* 2001 Ed).

Appendix Z - Unit Conversions and Slick Calculations

Volume		
1 barrel US	42 gallons US	159 liters
1 barrel Imp	45.1 barrels Imp	205 liters
1 gallon Imp	1.2 gallons US	4.546 liters
1 m^3	1, 000 liters	6.29 barrels US
1 liter	0.22 gallons Imp	0.03531 ft^3
1 $yard^3$	0.765 m^3	
1 ft^3	0.0283 m^3	
1 $decimeter^3$	0.001 m^3	1 liter
1 metric tonne	7.5 barrels US	

Area		
1 Acre	0.405 hectares	4, 050 m^2
1 Hectare	10, 000 m^2	2.471 acres
1 km^2	100 hectares	247 acres
1 m^2	1.196 $yard^2$	
1 $yard^2$	0.836 m^2	9 ft^2
1 ft^2	0.0929 m^2	
1 $mile^2$	2.59 km^2	640 acres

Distance		
1 km	0.54 nautical miles	0.622 mile
1 nautical mile	1.852 km	1.151 mile
1 mile	1.609 km	1, 760 yard
1 m	1.094 yard	3.262 ft
1 yd	0.914 m	
1 foot	0.305 m	
1 inch	25.4 mm	

Weight/Mass		
1 metric tonne	1000 kg	9.984 Imp ton
1 Imp ton	20 quintales	1016.05 metric tonne
1 quintal	50.8 kg	112 pound
1 kg	2.2 pound	1 liter of water
1 g	0.035 ounce	0.001 kg

Oil Slick Calculation

During an air reconnaissance, a crude oil slick with silver-plated brightness is observed floating in an area of the sea. At a constant flight speed of 150 knots, it took 65 seconds and 35 seconds to cross the width and length, respectively. The percentage cover of the patches of "mousse" (hydrocarbon water emulsion) within the contaminated marine area was10% and the cover of brightness was 90%.

From the previous information, it is possible to calculate that the length of the area of contamination:

Length: 65 seconds × 150 knots ÷ 3600 (seconds in one hour) = 2.7 nautical miles

Width: 35 seconds × 150 knots ÷ 3600 (seconds in one hour) = 1.5 nautical miles

This gives a total area of approximately 4 nautical square miles or 14 square kilometers.

Volume of "mousse":

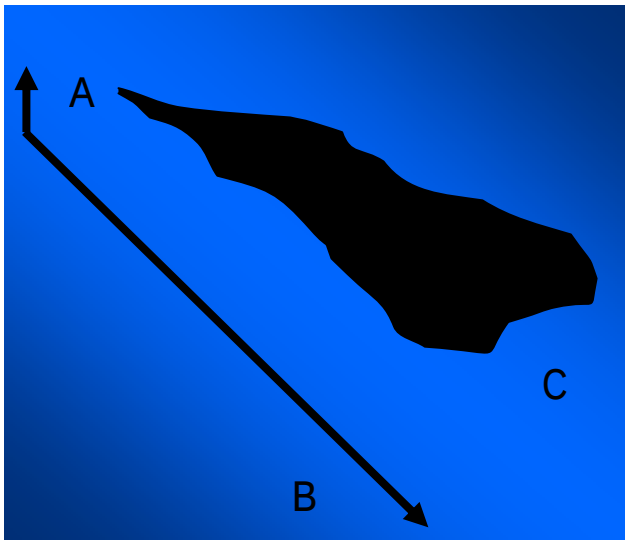
10% (percentage of cover) of 14 (square kilometers) × 100 (volume approximated in cubic meters by square kilometer. The volume of hydrocarbon present is approximately 700 cubic meters, considering that 50% of mousse is water.

Volume of brightness:

90% of 14 × 0.1 equals approximately 1.3 cubic meters of hydrocarbon. The previous example, also serves to demonstrate that although the brightness can cover a relatively great area with the surface of the sea, it has an insignificant contribution to the volume of present hydrocarbon. It is, therefore, of significant importance to distinguish between the brightness, the thickest hydrocarbon and the emulsions.

Vector calculations can be used to determine the direction of the oil slick using wind and current speed.

A = wind speed = 20 knots north (3% impact of wind)
B = speed of the current = 5 knots southeast (100% impact of current)
C = direction of the slick



ARPEL MEMBERS

COMPANIES

Administración Nacional de Combustibles Alcohol y Portland (ANCAP) - BP Exploration Company Ltda. - Chevron Corporation - Empresa Colombiana de Petróleos (ECOPETROL) - Empresa Nacional del Petróleo (ENAP) - ExxonMobil - Occidental Exploration And Production Company (OXY) - Petroleum Corporation of Jamaica (PCJ) - Petróleos de Venezuela S.A.(PDVSA) - Petróleos Mexicanos (PEMEX) - Petróleo Brasileiro S.A. (PETROBRAS) - Petróleos del Ecuador (PETROECUADOR) - Petróleos Paraguayos (PETROPAR) - Petróleos del Perú (PETROPERU) - Petroleum Company of Trinidad and Tobago Limited (PETROTRIN) - Refinadora Costarricense de Petróleo S.A. (RECOPE) - RepsolYPF - State Oil Companie Suriname N.V. (STAATSOLIE) - Den Norske State Oljeselskap A.S. (Statoil) - Total - Wintershall - Yacimientos Petrolíferos Fiscales Bolivianos (YPFB)

INSTITUTIONS

Asociación de la Industria Hidrocarburífera del Ecuador (AIHE) - Clean Caribbean & Americas (CCA) - Instituto Argentino del Petróleo y del Gas (IAPG) - Instituto Brasileiro de Petróleo e Gás (IBP) - Instituto Mexicano del Petróleo (IMP)

ARPEL

Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean

Established in 1965, ARPEL is an association of 27 state owned and private oil and gas companies and institutions with operations in Latin America and the Caribbean, which represent more than 90 percent of the Region's upstream and downstream operations. Since 1976, ARPEL holds formal UN-ECOSOC special consultative status.

ARPEL works together with its members –through its various Committees and Working Groups- on issues that contribute to sustainable development in the Region:

- *Economic issues*: regional energy integration, downstream and fuels
- *Environmental issues*: climate change, atmospheric emissions, oil spill contingency plans and best practices in environment and occupational health and safety management.
- *Social issues*: corporate social responsibility, relations with indigenous peoples, gender analysis and transparency

ARPEL develops a proactive attitude on issues of interest to the industry and produces documents representing the views of its members. It also promotes interaction among its members and with governments building alliances and establishing agreements with international organizations with the aim of presenting and developing a regional perspective. To accomplish its objectives, ARPEL organizes regional workshops and symposia to share information and best practices and develops technical documentation for capacity building and information exchange on the issues of interest to its members.

Javier de Viana 2345
11200 Montevideo, Uruguay
Tel.: +598 (2) 410 6993
Fax: +598 (2) 410 9207
E-mail: arpel@arpel.org.uy
Website: http://www.arpel.org