



# **SAINT VINCENT AND THE GRENADINES**

# **NATIONAL OIL SPILL CONTINGENCY PLAN**

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## **FOREWORD**

The St. Vincent and the Grenadines National Oil Spill Contingency Plan (the “National Plan”) outlines the practices and procedures to be followed in planning and responding to oil spill on land and in the marine environment in areas which impact or threaten the interests of St. Vincent and the Grenadines (SVG). The National Plan provides the framework for industry and governmental organizations to for the implementation of response measures which maximize environmental protection.

The National Plan is a subsidiary part of the existing national framework for preparedness and response to hazards as mandated by the National Emergency and Disaster Management Act No. 15 of 2006. The National Plan also provides the basis for discharging national obligations arising from instruments to which SVG is party including Cartagena de Indias Convention and its Oils Spill Protocol of 1993 and the Caribbean OPRC Plan established in accordance with these instruments.

**PLAN DISTRIBUTION LIST**

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

## **PLAN CUSTODIAN**

The Director of the National Emergency Management Organisation (NEMO) is the custodian (the National Plan Custodian) for the St. Vincent and the Grenadines National Oil Spill Contingency Plan (the National Plan). The Plan Custodian is responsible for the development, update, review and amending of the National Plan.

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

Revisions of the National Plan should be made through the Plan Custodian who will then ensure that the revised copy is distributed to all authorized National Plan holders.

**UPDATING & REVISIONS**

<b>UPDATING &amp; REVISIONS</b>				
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## **GLOSSARY OF TERMS**

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
MOHE	Ministry of Health and the Environment
MSRC	Marine Spill Response Corporation
NOSPAG	National Oil Spill Pollution Action Group
NEMO	National Emergency Management Organisation of St. Vincent and the Grenadines
ODA	Overseas Development Administration
ODP	Office of Disaster Preparedness
OPRC	Oil Pollution Preparedness, Response and Cooperation
OSC	On-Scene Commander
PAH	Polynuclear Aromatic Hydrocarbon
POLREP	Pollution Report

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PVC	Polyvinyl Chloride
REMPEITC	Regional Marine Pollution Emergency Information and Training Centre
RP	Responsible Party (The <i>RP</i> 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.)
RSVGPF	Royal St. Vincent and the Grenadines Police Force
SCUBA	Self-Contained Underwater Breathing Apparatus
SITREPS	Situation Reports
SVGCG	St. Vincent and the Grenadines Coast Guard
SVGMARAD	St. Vincent and the Grenadines Maritime Administration
SVGPA	St. Vincent and the Grenadines Port Authority
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**

"Convention" means the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (otherwise known as the Cartagena Convention)

"Caribbean Plan" means the Caribbean Island Oil Pollution Preparedness Response and Cooperation (OPRC) Plan established pursuant to the Convention and its Oils Spill Protocol.

"Convention Area" means the marine environment of the Gulf of Mexico, the Caribbean Sea and the areas of the Atlantic Ocean adjacent thereto, south of 30° north latitude and within 200 nautical miles of the Atlantic coasts of the States referred to in Article 25 of the convention. The internal waters of these States are not included in the convention Area.

"EEZ" means, for the purpose of the Caribbean Plan, the Exclusive Economic Zone of an Island State or Territory extending to sea 200 miles, or to an equal division of territorial area between any two islands where the 200 mile zone would overlap.

"Geographic Area of Responsibility" means all the waters within 200 nautical miles of the Coast of the Island States and Territories as defined in section 1.3 of this chapter for which any response action will be determined in accordance with the Lead Agency in accordance with the National Plan.

"Geographic Area of Interest" means all waters outside of the area of responsibility of any State and Territory which will affect the interest of that State or territory.

"Focal Point Agency" means the Ministry in which the Lead Agency resides, is designated under Paragraph 2, Article 15 of the Convention and is responsible for the exchange of information required under Article 4 of the Oil Spill Protocol.

"Lead Agency" means the Competent National Authority with responsibility for oil pollution preparedness and response which unless designated otherwise under Article 4 of the Oil Spill Protocol the Lead Agency is assumed to be the authority responsible for implementing the Oil Spill Protocol and Competent National Authority designated under Article 6(1) (a) (i) of the OPRC 90 for those States and Territories which are party to that Convention.

"Region" means any area within St. Vincent and the Grenadines in which efforts are coordinated to respond to a tier 2 spill. "regional" and "regional response" are to be construed accordingly.

"Related Interests" means the interests of St. Vincent and the Grenadines directly affected or threatened by an Oil Spill Incident including:

- (a) maritime, coastal, port or estuarine activities;

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- (b) the natural, physical, cultural, ecological, historical and tourist appeal of the area in questions, including water sports and recreation;
- (c) the health of the coastal population;
- (d) fishing and other marine resources; and,
- (e) other economically and socially relevant facilities amenities and resources.

"Response Agency" means the organization that normally responds to an oil spill during times of emergency and is:

- (a) The St. Vincent and the Grenadines Coast Guard Services for marine spills; and,
- (b) The St. Vincent and the Grenadines Fire Service for land based spills.

"On-Scene Commander (or Coordinator)" (OSC) means the official appointed and charged with coordination and direction of the national pollution control efforts at the scene of an oil spill incident and is:

- (a) The Coast Guard Commander for marine spills; and,
- (b) The Chief Fire officer for land based spills.

"Oil Spill Incident" means a discharge or a significant threat of a discharge of oil, however caused, of a magnitude that requires emergency action or other immediate response for the purpose of minimizing its effects or eliminating the threat.

"Oil Spill Protocol" means the Oils Spill Protocol of 1993 to the Convention.

"Secretariat" means the International Maritime Organization Regional Marine Pollution Emergency, Information, and Training Centre - Wider Caribbean (RAC/REMPEITC-Carib), Fokkerweg #26, Willemstad, Curaçao – Netherlands Antilles.

"Tier 1 Spill" means an accidental discharge occurring at or near a facility as a result of routine operations where impacts are low and in-house response capability is adequate.

"Tier 2 Spill" means a 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 Spill" means a 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 other nations, or world-wide spill co-operatives to mitigate effects perceived to be wide-reaching, i.e., of national or international significance.

"Waters of St. Vincent and the Grenadines" means the internal waters, the archipelagic waters and the territorial sea of St. Vincent and the Grenadines

## 1. PREFACE

### **1.1. Introduction**

The St. Vincent and the Grenadines (SVG) National Oil Spill Contingency Plan (the “National Plan”) is a subsidiary part of the overall national framework for disaster preparedness and response. The National Plan provides the basis for discharging national obligations arising from instruments to which SVG is party including the 1993 Oils Spill Protocol to the 1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (otherwise known as the Cartagena Convention) and the Caribbean Island Oil Pollution Preparedness Response and Cooperation (OPRC) Plan established in accordance with the Oils Spill Protocol.

The National Plan outlines the practices and procedures to be followed in planning and responding to oil spill on land and in the marine environment in areas which impact or threaten St. Vincent and the Grenadines and its related interests. The National Plan provides for the implementation of response measures which maximize environmental protection.

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

The National Plan provides seamless transition to the activation of the Caribbean Plan which is designed to enhance the abilities of individual States and Territories in the Convention Area (including St. Vincent and the Grenadines) to respond to a spill that is beyond their own capability through mutual assistance. To avoid unnecessary duplication in the National Plan, reference is made to the appropriate sections of the Caribbean Plan. However, where important information would be immediately required in an emergency, such information is deliberately repeated in the National Plan.

Both the National Plan and the Caribbean Plan apply the principle of tiered response, whereby:

- i. **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.
- ii. **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.
- iii. **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 other nations or worldwide spill co-operatives to mitigate effects perceived to be wide-reaching and which may be of national or international significance.

## **1.2. Purpose and Objective**

The purpose of the National Plan is to provide a coherent and effective response to any oil spill incident which threatens or causes damage to St. Vincent and the Grenadines, the waters of St. Vincent and the Grenadines, the exclusive economic zone (EEZ) of St. Vincent and the Grenadines or its related interests and to spills and pollution by hazardous and noxious substances other than oil by:

- (a) delineate responsibilities for the operational response;
- (b) outlining procedures that ensure local, national and regional co-operation involving contingency planning, prevention, control and clean up; and,
- (c) integrating local facility and terminal plans within the National Plan.

The central objective of all countermeasures operations outlined in the National Plan is 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.

## **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 St. Vincent and the Grenadines;
- h. identifies external sources of expert advice and equipment and establishes procedures for calling them in and entering and departing St. Vincent and the Grenadines;
- i. identifies St. Vincent and the Grenadines' 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.

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The National Plan is effective for the waters of St. Vincent and the Grenadines, its adjoining shoreline and EEZ. 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 12° 29'N and 13° 23'N, and longitude 061° 07'W and 061° 32'W including the coastal and territorial waters known as St. Vincent and the Grenadines.

### **1.4. Statement of Authority**

The National Plan has been developed in accordance with Section 17(5) of the St. Vincent and the Grenadines National Emergency and Disaster Management Act No. 15 of 2006. Other supporting legislation includes:

- The Shipping Act, No 11 of 2004;
- The Fisheries Act, No 8 of 1986 (CAP 52);
- Maritime Areas Act, No 15 of 1983, (Cap 333);
- Maritime Areas (Amendment) Act No 5 of 1994
- The Continental Shelf Act, (CAP 332)
- Oil Pollution (Liability and Compensation) Act
- National Parks Act, No 33 of 2002
- Marine Parks Act, No 9 of 1997
- The Port Authority Act, No 26 of 1987 (CAP 373)

## **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 St. Vincent and the Grenadines the Lead Agency is the National Emergency Management Organization (NEMO) established pursuant to the National Emergency and Disaster Management Act, No. 15 of 2006.

The National Oil Spill Pollution Action Group (NOSPAG) is the established body which is activated to when there is an oil spill incident or a threat of an oil spill incident the may impact St. Vincent and the Grenadines and or its related interests. The NOSPAG comprises representatives of the following:

- a) Airports Department,
- b) Attorney General's Office,
- c) CHEVRON W.I Limited,
- d) Fire Service Department,
- e) Fisheries Division,
- f) General Equipment Services Corporation,
- g) National Parks Authority,
- h) National Emergency Management Organization,
- i) Maritime Administration,
- j) Ministry of Health and the Environment,
- k) Ministry of National Security
- l) Ministry of Tourism,
- m) Ministry of Transport and Works,
- n) PETRO CARIBE,
- o) Physical Planning Department,
- p) Royal St. Vincent and the Grenadines Police Force
- q) St Vincent and the Grenadines Coast Guard Service,
- r) St. Vincent and the Grenadines Electricity Services
- s) St. Vincent and the Grenadines Port Authority;
- t) SOL EC Limited

Other persons and organizations may by co-opted to the NOSPAG, as appropriate and as desired by the NOSPAG.

The role of the NOSPAG is primarily to direct the Response Agency. Additional roles of the NOSPAG include:

- a. Advising the Director of NEMO concerning oil spill planning, preparedness, monitoring, response operations; and,
- b. ensuring that other agencies, such as industry organizations and inter-governmental agencies, play an appropriate supporting role in response to any oil spill incident.

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The NOSPAG will be chaired by **Director of NEMO** who will be in overall charge of operations. The chairman will draw on the collective expertise of the NOSPAG and other supporting and industry organizations. The names and contact details for the members of the NOSPAG are provided at Appendix A.

Arrangements will be made to secure the use of personnel and equipment from members of the NOSPAG, industry organizations, civil contractors and volunteer organizations to respond to oil spill incidents.

### **2.2. Lead Agency Roles and Responsibilities**

The operational aspects of NEMO's responsibilities in response to an oil spill incident are discharged by the Spill Response Team which is headed by the On-Scene Commander (OSC). The composition and duties of the Spill Response Team are as follows:

#### **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). Unless otherwise, determined by the NOSPAG:

- a. The On-Scene Commander for oil spill incidents in the marine environment is the Coast Guard Commander;
- b. The On-Scene Commander for oil spill incidents on land is the Chief Fire Officer.

#### **Deputy On-Scene Commander**

Assists and advises the On-Scene Commander on the status of spill response activities, equipment procurement and health 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<sub>2</sub>S and explosive meter monitoring). This

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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 Officer 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:

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- (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 Emergency Operations Centre (EOC) at the NEMO headquarters building located at Old Montrose, Kingstown, St. Vincent and the Grenadines is designated as the operation centre. The operation centre will be staffed as necessary and will provide the command and control facility for the entire oil spill response operation. The Coast Guard Base at Calliaqua, St. Vincent is the alternate location for the operation centre. Appendix I contains additional information on the 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. Support agencies include: The Port Authority, Civil Aviation, Public Works, Customs and Immigration Departments, Ministry of Health and the Environment, Ministry of Finance, Police Service, Ministry of Tourism, Office of the Public Prosecutor, and the Ministry of Telecommunications: private enterprises such as utility companies, oil companies, the Chamber of Industry and Commerce; volunteer and charitable organizations such as Red Cross and local Service Clubs; international agencies such as Regional Marine Pollution Emergency Information and Training Centre Wider Caribbean (REMPETIC – Carib) can also be utilized to provide expert advice, equipment and personnel).

A brief description of the roles of support agencies are included in Appendix F.

## **2.6. Inter-agency Agreements**

Inter-agency agreements to provide assistance have been made with the following agencies and industries:

<b>Name of Agencies</b>	<b>Contact Details</b>	<b>Scope of Agreement</b>

St. Vincent and the Grenadines is party to the following international conventions:

<b>Convention / Agreement</b>	<b>Signed / Ratified</b>
CLC 92 Fund 92	
Marpol 73/78 III IV V VI	<b>1979 – 26<sup>th</sup> November 2008</b>
Cartagena Convention Oil Spill Protocol of 1993	<b>11<sup>th</sup> July 1990</b>
Bunkers 2001	<b>26<sup>th</sup> November 2008</b>
Intervention Convention 1969	
Intervention Convention 1973	
Bio-Diversity 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 St. Vincent and the Grenadines, by supporting Caribbean States or by external global resources. In the initial stages of any operation, monitoring of oil slicks by the Coast Guard Service and forecasting their movement is likely to be the limit of at sea involvement until aerial surveillance support is mobilized.
- b. The mounting of a labour-intensive and protracted beach cleaning operation would quickly absorb the available labour force so that external reinforcement of equipment and personnel would almost certainly be required.

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- 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 St. Vincent and the Grenadines 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 St. Vincent and the Grenadines and the region. The National 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 St. Lucia, Grenada and Barbados 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 the Eastern Caribbean 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 2.8 of the Caribbean Plan.

### **3.2. Local and Facility Plans**

All ships, exploration operations, ports, harbor facilities, terminals and pipelines that transport or handle hydrocarbons or other potentially dangerous substances must each submit a local oil spill emergency plan (local plan) to the Director of NEMO for approval and for inclusion in the National Plan. All local plans are to be consistent with and be coordinated with the National Plan. The Director of NEMO should consult the members of the NOSPAG prior to granting the approval of any local plan. Each local plan 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 (SOPEP) 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

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- 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

Unless the condition of a ship reveal otherwise, a valid SOPEP will be accepted as compliance by that ship with the provisions of the National Plan.

### **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 St. Vincent and the Grenadines 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 St. Vincent and the Grenadines 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**

Annual training will be held that involves multiple agencies in St. Vincent and the Grenadines.

NEMO 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. Exercises with neighboring countries should be held every three years to test response plans and the coordination of planning and operations.

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

### **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 NOSPAG as guided by the Ministry of Health and the Environment, the Fisheries Division, the Marine Parks Board and other stakeholder agencies will be responsible for

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the approval of the use of dispersants in waters under the jurisdiction of St. Vincent and the Grenadines 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.

Approval for the use of dispersants should be guided by the principle of net environmental benefit analysis outlined in paragraph 10.2.2 of the Caribbean Plan. The Dispersants Spraying Decision Tree in Chapter 10 of the Caribbean Plan should be used whenever the use of dispersants is contemplated.

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 NOSPAG, as guided by the Ministry of Health and the Environment, the Fisheries Division, the Marine Parks Board and other stakeholder agencies will be responsible for the approval of in-situ burning in waters under the jurisdiction of St. Vincent and the Grenadines, 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 St. Vincent and the Grenadines, SVGCG 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 St. Vincent and the Grenadines, SVGCG will document the incident to include taking of photographs or other evidence and provide such evidence to the Flag State of the vessel concerned and request that the matter be investigated further.

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The Maritime Administration (SVGMARAD) and the Port Authority (SVGPA) will provide support to SVGCG in the investigation of illegal discharges.

### **3.8. Intervention**

The Director for Maritime Administration 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 provisions of the Shipping Act and the International Convention for the prevention of pollution from ships, MARPOL 73/78 and local laws and regulations can use this power to give direction when:

- a. an accident has occurred to or in a ship;
- b. in the opinion of Director for Maritime Administration, oil from the ship will or may cause pollution on a large scale to St. Vincent and the Grenadines or in the waters thereof;
- c. in the opinion of Director for Maritime Administration 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 Director for Maritime Administration can arrange for other persons to act on his behalf.

These responsibilities are discharged by the Chief Pilot of the SVG Port Authority in areas within the jurisdiction of the Port Authority.

The SVGCG will provide support to SVGMARAD and the SVGPA in the discharge of intervention duties.

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

## **4. RESPONSE**

### **4.1. Alerting Systems**

Following notification, the Director of NEMO 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 Director of NEMO will activate the NOSPAG. The Director of NEMO will also contact external agencies such as the Caribbean Disaster Emergency Response Agency (CDERA) and others as appropriate. The International Maritime Organization (IMO) Regional Consultants in Curacao (REMPEITC Carib) 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 SVGCG using information gained by observation by the aircraft and surface vessel and an assessment as to the threat to St. Vincent and the Grenadines will be made by the Coast Guard Commander who will report directly to the Director of NEMO.

NEMO 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, NEMO will inform that State.

For routine surveillance all pilots of aircraft and masters of ships and vessels should be instructed by the Airports Department and the Port Authority respectively to report any sightings of oil in the sea for immediate onward transmission to the NEMO.

Instruction on aerial surveillance is included in the Caribbean Island OPRC Plan. (Paragraph 3.3).

### **4.3. Cleanup Response Decision and Operations**

The NOSPAG will meet under the Chairmanship of the Director of NEMO 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;

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- 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 and Appendix K lists locally available resources. It is expected that equipment from CHEVRON-TEXACO, PETROCARIBE/VINLEC and SOL 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 The Ministry of Health and the Environment. The cleanup will be conducted by workers mobilized by the NEMO. Appeals may be made for volunteer groups to assist. Tarred sand will be removed with appropriate equipment supplied by the Ministry responsible for works, GESCO, or private contractors and transported to the designated disposal site(s). Any liquid oil recovered will have to be placed in containers and disposed of properly.

Disposal of and or oily waste may involve shipment to locations outside of St. Vincent and the Grenadines.

### **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 NOSPAG as advised by the Ministry of Health and the Environment after consultation with support agencies (e.g. the Ministry of Agriculture, Forestry and Fisheries, Ministry of Tourism, the National Parks Authority, Physical Planning Department, etc.), as appropriate.

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 internal arrangements in St. Vincent and the Grenadines 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 Bowen 727;
- b. E.T. Joshua and, Canouan Airports will be used for landing, unloading, reloading and fuelling of aircraft;
- c. Transport of equipment into out of St. Vincent and the Grenadines may depend highly on the availability and deployment of marine crafts;
- d. Seaport docking and cargo handling facilities and, water transport will be required;

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- e. Additional arrangements by Immigration and Customs will be necessary to facilitate arrival and return of personnel and equipment without delay;
- f. Food, accommodation, medical and public health services will be required for workers and for affected personnel.

### **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 St. Vincent and the Grenadines and recognizing the need for speedy deployment of reinforcements, the following reporting procedures have been established:

- a. Report details direct to NEMO.
- b. NEMO will then:
  - i. Contact the Lead Agencies in neighbouring island via Caribbean Pollution Report (CARIBPOLREP).
  - 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.]
  - iv. Notify the Secretariat of the International Oil Pollution Compensation Funds if the pollution is caused by oil carried as cargo. 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 (Fund Convention), consistent with the provisions of the ...Act. (See also 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 Director of the Agency for Public information will make arrangements for a experienced public relations officers to provide support to the On Scene Commander and the NEMO 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 Prime Minister's Office and the Ministry of Tourism and tourism private sector.

### **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.

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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 Ministry of Health and Environment 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 Ministry of Health and the Environment.

## **5. REPORTING, COMMUNICATION, LEGAL AND FINANCE**

### **5.1. Reporting Systems**

Upon receipt of notification of an oil spill incident, Airports Department, SVGPA, RSVGPF and SVGCG, which are usually the initial contact point, shall immediately notify the NEMO who will in turn alert relevant support agencies. The formats for Initial Oil Spill Notification Report and Follow-up Oil Spill Notification Report are contained in Appendix B and Appendix C respectively. More For more detail of the Follow-up Report refer to the Caribbean Plan.

***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 under 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 NEMO Headquarters Building will be the Co-ordination Centre. All information from the site of the spill and impacted areas will be fed into the Coordination Centre 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**

#### **For pollution caused by oil carried as cargo**

Under the provisions of the 1992 Protocol of the International Convention and Civil Liability for Oil Pollution Damage (CLC), the owner of a ship carrying cargo of persistent oil in bulk is strictly liable for any pollution damage in the waters of St. Vincent and the Grenadines including the seabed, shores, beaches and ecology thereof. The liability extends to post-spillage prevention and cleanup costs. St. Vincent and the Grenadines 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, St. Vincent and the Grenadines 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 (The Fund Convention).

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.

#### **When oil is carried as fuel in ships' bunkers**

The International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Bunkers 2001) provides compensation for loss or damage caused outside the ship by contamination resulting from oil carried as fuel in ships' bunkers. Compensation is payable for: loss or damage caused outside the ship by contamination resulting from the escape or discharge of bunker oil from the ship including impairment of the environment, loss of profit from impairment of the environment, reasonable measures of reinstatement of the

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environment actually undertaken or to be undertaken and to the costs of preventive measures and further loss or damage caused by preventive measures. It is applicable to damage caused on the territory, including the internal waters, archipelagic waters and territorial sea, and in exclusive economic zones and to persons who suffer damage.

The registered owners of ships of ships over 1,000 gross tonnage are required to maintain insurance or other financial security, to cover the liability for pollution damage in an amount equal to the limits of liability under the applicable national or international limitation regime, but in all cases, not exceeding an amount calculated in accordance with the Convention on Limitation of Liability for Maritime Claims, 1976, as amended.

Claims for compensation for pollution damage resulting from bunkers may be brought directly against an insurer.

***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 Response Agency 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 NOSPAG 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 Director of NEMO will submit the final report to the Prime Minister/Chairman of the NEC for his/her 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
- J Public Relations
- K Locally Available Oil Spill Response Resources
- L External Sources of Specialist Equipment and Personnel
- M External Sources of Expert Advice
- N Spill Response and Cleanup Strategies
- O Communications Arrangements
- P Use of Dispersants
- Q In-Situ Burning
- R Sensitive Areas
- S Risk Assessment
- T Training and Exercises
- U Equipment Staging Areas
- V Cross-Boundary Movement of Equipment and Personnel
- W Financial Procedure for Movement of Personnel and Equipment
- X Conventions, Agreements and Laws
- Y Preparation of Local and Facility Plans
- Z Unit Conversions and Slick Calculations

## **Appendix A - Contact List**

### MINISTRY OF LEAD AGENCY

Ministry of National Security  
Government Administrative Center  
Bay Street  
Kingstown  
St. Vincent and the Grenadines  
TEL: + (784) 456-1703  
FAX: + (784) 457-2152  
TELEX: none  
EMAIL: [pmosvg@vincysurf.com](mailto:pmosvg@vincysurf.com)

### LEAD AGENCY

National Emergency Management Organization  
Old Montrose  
Kingstown  
St. Vincent and the Grenadines  
TEL: + (784) 456-2975  
FAX: + (784) 457-1691  
TELEX: none  
EMAIL: [nemosvg@vincysurf.com](mailto:nemosvg@vincysurf.com), [nemosvg@gmail.com](mailto:nemosvg@gmail.com) or [nemosvg@gov.vc](mailto:nemosvg@gov.vc)  
POC: Howie Prince, Director

### RESPONSE AGENCY

St. Vincent and the Grenadines Coast Guard Service  
Coast Guard Headquarters  
Calliaqua  
St. Vincent and the Grenadines  
TEL: + (784) 457-4578/4554  
FAX: + (784) 457-4586  
TELEX: none  
EMAIL: [svgcoguard@vincysurf.com](mailto:svgcoguard@vincysurf.com)  
POC: Lt/Cdr Brenton Cain, Coast Guard Commander

### NATIONAL OPERATIONAL CONTACT POINT

Commander  
St. Vincent and the Grenadines Coast Guard Service  
Coast Guard Headquarters  
Calliaqua  
St. Vincent and the Grenadines  
TEL: + (784) 457-4578/4554  
FAX: + (784) 457-4586  
TELEX: none  
EMAIL: [svgcoguard@vincysurf.com](mailto:svgcoguard@vincysurf.com)

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Date of latest information: May 2005

<b>External Contact List</b>					
<b>Name</b>	<b>Position</b>	<b>Organization</b>	<b>Office</b>	<b>Home</b>	<b>Cellular</b>
		Airports Department			
		Attorney General's Office			
		Fisheries Division			
		NEMO			
		National Parks Authority			
		Maritime Administration			
		Ministry of Health and the Environment			
		Ministry of Tourism			
		Ministry of Transport and Works			
		Physical Planning Department			
		Royal St. Vincent and the Grenadines Police Force			
		SVG Coast Guard			
		SVG Fire Service			
		SVG Port Authority			
		Chevron W.I. Limited			
		SOL EC Limited			
		St. Vincent Electrify Services Limited			

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<b>International Response and Advice Agencies</b>		
<b>Agency</b>	<b>Address</b>	<b>Phone</b>
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: <a href="mailto:imocr@attglobal.net">imocr@attglobal.net</a>
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: <a href="mailto:staff@cleancaribbean.org">staff@cleancaribbean.org</a> Web Site: <a href="http://www.cleancaribbean.org">www.cleancaribbean.org</a>
Oil Spill Response Limited (OSRL)	Southampton, United Kingdom	Tel: 44 (0) 23 8033 1551 (24 hr) Fax: 44 (0) 23 8033 1972 Email: <a href="mailto:osrl@osrl.co.uk">osrl@osrl.co.uk</a> Web Site: <a href="http://www.oilspillresponse.com">www.oilspillresponse.com</a>
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 <a href="mailto:tliebert@osrl.co.uk">tliebert@osrl.co.uk</a>
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 (and 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 the existence of an oil 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. (See contact information at Appendix A.)

**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.

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**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**

- |                            |   |
|----------------------------|---|
| <b>1. Date Time Group:</b> | The day of the month as well as the time of day of the message  |
| <b>2. From:</b>            | Lead Agency of the Island State or Territory that is initiating the message.  |
| <b>3. To:</b>              | 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. |
| <b>4. Subject:</b>         | CARIBPOLREP, sequential number of the report and the name of the vessel on facility involved in the spill incident.   |

**SITUATION**

- |                          |  |
|--------------------------|--|
| <b>1. Date and Time:</b> | Date and time of the incident  |
| <b>2. Position:</b>      | 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. |

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- 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.

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**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.

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- 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**

***St. Vincent and the Grenadines (and by extension NOSPAG or the OSC) 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. A non-adversarial response and cooperative management approach is therefore highly recommended.***

### **General Responsibilities**

#### **National Emergency Management Organization (NEMO)**

- (a) Lead Agency
- (b) Overall responsibility oil pollution preparedness and response;
- (c) Arranging adequate resources for implementation of the National Plan.
- (d) Contact and liaison with foreign or external agencies with expertise in oil spill response;
- (e) Contact and liaison with inter-governmental agencies which have responsibilities for oils spill response and compensation including REMPEITC-Caribe, IMO Secretariat and the Secretariat of the International Oil Pollution Compensation Funds;
- (f) Report and make recommendations to the Prime Minister/Chairman of the NEC/Cabinet, as appropriate.
- (g) Conclusion of agreements and arrangements in support of the National Plan
- (h) Initiate and receive pollution information directly from local sources and other Lead Agencies during incident/operation or simulation exercise.
- (i) Provide and coordinate communications networks as necessary for operation EOC/Government/OSC Ship/Shore, etc.
- (j) Arrange periodic simulation and training exercises, workshop and seminars as necessary for administrative, technical operational staff and field groups.
- (k) Provide liaison with sub-agents of NEMO administration services, Disaster Committees and volunteers.

#### **National Oil Spill Pollution Action Group (NOSPAG)**

- (a) National response coordination
- (b) Develop and monitor procedures to promote unified response of all participants.
- (c) Policy advise to NEMO/Government
- (d) Monitor reports and evaluate likely impact of pollutants
- (e) Evaluate OSC's plans and actions.
- (f) Activation of the National Plan, closing of operations for medium/major oil spill incidents.
- (g) Designation of the EOC.
- (h) Activate EOC staff and manage the EOC.
- (i) Overall charge of response operations: Chairman/headed by Director of NEMO.
- (j) Coordination of response with the Responsible Party (RP).
- (k) Report to Flag State of ship involved in pollution incident.
- (l) Advice and support to OSC

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- (m) Coordinate actions of local, national, bilateral and international agencies in providing necessary support to the OSC. (e.g., Public and Private Sectors, RSS, U.S. Coast Guard, Regional Plan, CCA, IMO, UNEP).
- (n) Ensure OSCs have adequate funds, administrative, technical and scientific support, as necessary and on time.
- (o) Public Relations, liaison with local and foreign media.
- (p) Administration of response including record keeping, cost accounting and claims management.
- (q) Secure external assistance, personnel and equipment, as appropriate.
- (r) Approve/not approve use of dispersants in waters under the jurisdiction of St. Vincent and the Grenadines.
- (s) Prepare briefing and arrange site visits for the Prime Minister and other officials and dignitaries.
- (t) Ensure adequate communications link throughout all levels of the response organization: Government/Command Center/OSC/Field Staff, etc.
- (u) Preparation of Final Report after incidents.
- (v) Other aspects as contained in the National Plan.
- (w) Initiating and managing national mitigation efforts including establishing clean-up priorities and monitoring and control of expenditures.

### **Ministry responsible for National Security**

This Ministry has a critical role in support role as it supervises several agencies which have designated roles in response to an oil spill incident. It supervises NEMO, the Police Department, Airport Department, Coast Guard Service, Maritime Administration, Port Authority, VINLEC, Fire Service.

### **Ministry responsible for Works**

This Ministry has command significant equipment resources both directly and through the General Equipment Services Corporation (GESCO) which possesses heavy equipment. At one stage or another, these bodies are critical to the success of a response required to support beach clean-up, transportation and storage of recovered oil and oily wastes and debris. This Ministry and its associated agencies will:

- (a) Provide logistical support to the NOSPAG and the OSC in the form of personnel and equipment;
- (b) Assist with land/shore cleaning and disposal operation with mechanical equipment, etc.

### **On-Scene-Commander (OSC)**

The OSC is charged with responsibility managing operations to combat any oil spill or other marine pollution incident[, in his or her respective area]. The OSC will need to work closely with the Responsible Party (RP) which *is* undertaking an appropriate/best practice response. responsible approach to response and management of the spill. The OSC should work in conjunction with the RP to:

- (a) mitigate the spill

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- (b) conduct effective clean-up operations
- (c) avoid the introduction of any political agenda at this level.
- (d) assist the RP in matters such as arranging for expedited customs/immigration services when bringing resources in from outside St. Vincent and the Grenadines.
- (e) 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:

- (a) Staffing Command Teams as appropriate to the degree and scope of the incidents.
- (b) 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.
- (c) Supervising and monitoring efforts to have R undertake the necessary actions to mitigate the impact and conduct proper environmentally sound clean-up.
- (d) Conducting detailed investigation to assess damage.
- (e) Maintaining up-to-date and accurate flow of information to the Chairman of the NOSPAG and the EOC.
- (f) Documenting all major actions and all costs and reports associated with the operation.
- (g) Other aspects as may be outlined in the National Plan.

### **St. Vincent and the Grenadines Coast Guard Service (SVGCG)**

- (a) Performs the role of LEAD RESPONSE AGENCY for Marine Spills)
- (b) Monitors and initiates response to oil spills in the marine environment which may threaten the interests of St. Vincent and the Grenadines
- (c) Provides On-Scene Commander, support personnel and equipment as necessary to respond to marine spills.
- (d) Assist in investigating causes of oil spill incidents.
- (e) Provides/arranges surveillance/patrol craft - marine and air.
- (f) Provides/arranges general scientific support personnel in collaboration with other agencies (e.g. Fisheries Department, National Parks, MOHE, and CWSA).
- (g) Respond to local oil spills, tar balls, flotsam, debris, etc. in coastal areas and waters outside ports and harbors.
- (h) Coordinate activities with RP/facility and terminal operators for response to marine spills.

### **Fire Service Department**

- (a) Performs the role of LEAD RESPONSE AGENCY for oil spill incidents on land.
- (b) Provides the On-Scene Commander for oil spill incidents on land.
- (c) Monitors and initiates response to oil spills incidents on land;
- (d) Assist in investigating causes of oil spill incidents on land.
- (e) Provides personnel, materials and equipment as necessary to respond to oils spill incidents on land.

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### **Department of Maritime Administration (SVGMARAD)**

- (a) Provides support and technical to the NOSPAG and the OSC for marine spills.
- (b) Assists the NOSPAG with communications to the IMO.
- (c) Assists the NOSPAG with communications to flag States of ships which cause oil spill incidents which impact or threaten to cause pollution to SVG and relates interests.
- (d) Provides maritime safety information to the international shipping community.
- (e) Conducts inspection of ships which cause oil spill incidents within the waters of SVG and undertakes marine safety investigations in respect of such incidents;
- (f) Manages wrecks and salvage operations in the waters of SVG (outside of areas under the authority of the SVG Port Authority) taking measures to protect the environment from pollution following a marine casualty or related acts which may result in harmful consequences.
- (g) As necessary, orders the detention of vessels involved in oil spill incidents in the waters of SVG.

### **SVG Port Authority**

- (a) Provides technical support to the NOSPAG.
- (b) Provides marine craft and personnel support to the OSC for marine spills.
- (c) Facilitates speedy handling and entry of personnel equipment and supplies travelling/arriving/departing by sea.
- (d) Provides short term storage for equipment and stores required in connection with spill response operations.
- (e) Collaborates in the detention of vessels involved in oil spill incidents in the waters of SVG.
- (f) Prosecutes offending vessels/personnel, as appropriate.
- (g) Responds to oil spill incidents in harbours and ports under its authority.
- (h) Manages wrecks and salvage operations in harbours and ports under its authority, taking measures to protect the environment from pollution following a marine casualty or related acts which may result in harmful consequences.

### **Ministry of Health and the Environment**

This Ministry has general responsibility for the total environment (land, sea, and air) and related natural resources that the National Plan seeks to protect; for the health and wellbeing of the general public; and, the provision of medical care. This Ministry collaborates with other stakeholder agencies (Fisheries Division, Central Water and Sewerage Authority, Physical Planning Department, etc) in discharging health and environmental responsibilities related to oil spill response. It is responsible for:

- (a) advising NOSPAG and OSC concerning operations affecting critical natural resources;
- (b) documenting natural resource damage and losses for purposes of obtaining compensation or undertaking mitigation measures.
- (c) Providing advice on general health matters including dangers posed by toxic substances.
- (d) Provision of scientific support to the OSC.

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- (e) Designation of suitable sites and agree on safe method of disposal of oil waste, residues and debris by burning, burial or other method.
- (f) Advising the OSC concerning in-situ burning of oil.
- (g) Ensure the necessary evidence is properly documented for obtaining reimbursements of response costs, other damages and undertaking further prosecution by the Office of the Attorney General.

### **Central Water and Sewerage Authority (CWSA) (Waste Management Unit)**

The CWSA/Waste Management Unit assists in the supervision of:

- (a) Land/shore cleaning/recovery of oil from marine spills.
- (b) Storage and disposal of oil and debris at designated sites determined by the Ministry of Health and the Environment.

### **Attorney General Office**

Supervise legal aspects of the pollution incidents including:

- (a) Legal counsel to the OSC on operations matters.
- (b) Advise the Ministry of Health and the Environment on matters concerning the documentation of evidence.
- (c) Provide advice on the correlation between laws (national and international) and the National Plan, so as to keep the National Plan up-to-date and enhance its legal foundation.
- (d) Lead negotiations with any involved vessel and cargo owners, insurers and other bodies regarding claims, compensation and indemnity.
- (e) Provide advice to victims of pollution damage.
- (f) Arrest of offending vessel if necessary, prosecution of owners/personnel.

### **Royal St. Vincent and the Grenadines Police Force (RSVGPF)**

- (a) Assist, as necessary, in investigating the causes of oil spill incidents.
- (b) Work with responders to ensure adequate security of response operations/sites
- (c) Provide escort service and/or expertise for movement of equipment as necessary

### **Airports Department**

- (a) Reports sightings of oil spills (oil slick) and information on discharge source if known.
- (b) Assists in organizing surveillance missions to monitor progress of response and the behaviour of the spill.
- (c) Provide administrative support for the loading, unloading and refueling of aircraft involved in the delivery and removal of personnel and equipment from SVG and in the event that spraying of dispersant, etc. by use of aircraft is required.
- (d) Facilitate speedy entry and handling of personnel, equipment and supplies arriving by air.
- (e) Provide weather information (including wind direction and speed), analyses and forecast to OSC.

### **Customs and Excise Department & Immigration Department**

These Departments facilitate rapid response to oil spill incidents. They:

- (a) Collaborate with other agencies and Departments to expedite due entry of personnel and equipment required for response.
- (b) Assist with the response itself through the participation/involvement of extra personnel available to get out-of-country response equipment through customs quicker;
- (c) Collaborate in the detention of vessels involved in oils spill incidents by withholding departure clearance.

### **Ministry of Tourism**

This Ministry:

- (a) Provides liaison between NOSPAG and OSC and owners/operators of resorts and tourism facilities impacted or likely to be impacted by pollution incident.
- (b) Collaborates with other agencies/departments assessing priority/sensitivity criteria for response/protection.
- (c) Participate and advice in public relation exercises.

### **Ministry of Finance**

- (a) Administers financial aspects of response – Payments, invoicing and cost control.
- (b) Allocation of funding for the operation as approved.
- (c) Assist in cost accounting, claims and compensation assessment.

### **Industry organizations (Chevron W.I. Limited, SOL EC Limited, VINLEC)**

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

### **Responsible Party (RP): 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**

This sub-group which would comprise, as appropriate, representatives from API, Ministry responsible for tourism/Tourism Authority, Ministry of Health, Fisheries Department, and other agencies will:

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

#### **Operations Coordination**

This sub-group which would comprise, as appropriate, representatives from Physical Planning Department, Fisheries Department, Maritime Administration, Ministry of Health and the Environment, Central Water and Sewerage Authority, Port Authority, National Parks, Ministry of Tourism/Tourism Authority, Ministry responsibility of works, NEMO, Fire Service and other agencies will:

- 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

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### **Communications Coordination**

This Team would comprise, as appropriate, representatives from (telecommunication service providers, NTRC, RSVGPF):

- 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**

This Team comprising, as appropriate, representatives from (Maritime Administration, Port Authority)

- 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**

This Team comprising, as appropriate, representatives from (Ministry of Finance/Treasury Department, Ministry of Works/Transport Authority)

- 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**

This Team comprising, as appropriate, representatives from (Fisheries Department, Physical Planning, Ministry responsible for the Environment, National Parks, Ministry responsible for Tourism/Tourism Authority)

- 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

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**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:

<b>Agency</b>	<b>Responsibilities</b>
Ministry of Health and the Environment and Fisheries Division	<ul style="list-style-type: none"> <li>• advice on operations that affect natural resources, environmental issues, cleanup of coastline</li> <li>• scientific support and evaluate sensitivity of threatened areas</li> </ul>
SVG Coast Guard	<ul style="list-style-type: none"> <li>• marine and air surveillance, On-Scene Commander at Sea and support personnel, arrest/detention of offending vessel/personnel</li> <li>• monitoring and aerial logistic support</li> </ul>
Royal St. Vincent and the Grenadines Police Force	<ul style="list-style-type: none"> <li>• assist in investigation incidents, arrest/detention of offending vessel/personnel, prosecuting ship owner/personnel</li> <li>• evacuation</li> </ul>
Office of the Attorney General	<ul style="list-style-type: none"> <li>• legal aspects</li> </ul>
Communications	<ul style="list-style-type: none"> <li>• national telecommunications</li> </ul>
SVG Port Authority	<ul style="list-style-type: none"> <li>• technical and operational support</li> </ul>
Ministry of Works/GESCO	<ul style="list-style-type: none"> <li>• terrestrial transport, infrastructure</li> </ul>
Ministry of Health and the Environment & Central Water and Sewerage Authority	<ul style="list-style-type: none"> <li>• health matters</li> <li>• sewage system, potable water</li> <li>• supervise cleaning of coastline and disposal</li> </ul>
Ministry of Tourism	<ul style="list-style-type: none"> <li>• liaison between OSC and tourist facilities impacted, help to assess priority/sensitivity criteria for response/protection, participate and advise in public relations</li> </ul>
Fire Service	<ul style="list-style-type: none"> <li>• firemen - provide personnel and equipment as necessary</li> </ul>
Ministry of Finance	<ul style="list-style-type: none"> <li>• financial advice, funds, accounting of costs, evaluation of reclamations and compensation</li> </ul>
Customs and Immigration	<ul style="list-style-type: none"> <li>• expedite entry of personnel and equipment required for response, deny outward clearance to any vessel, equipment or personnel involved in a pollution incident</li> </ul>
Oil Companies	<ul style="list-style-type: none"> <li>• expert advice and equipment</li> </ul>

## **Appendix G - Organization Plan Chart**

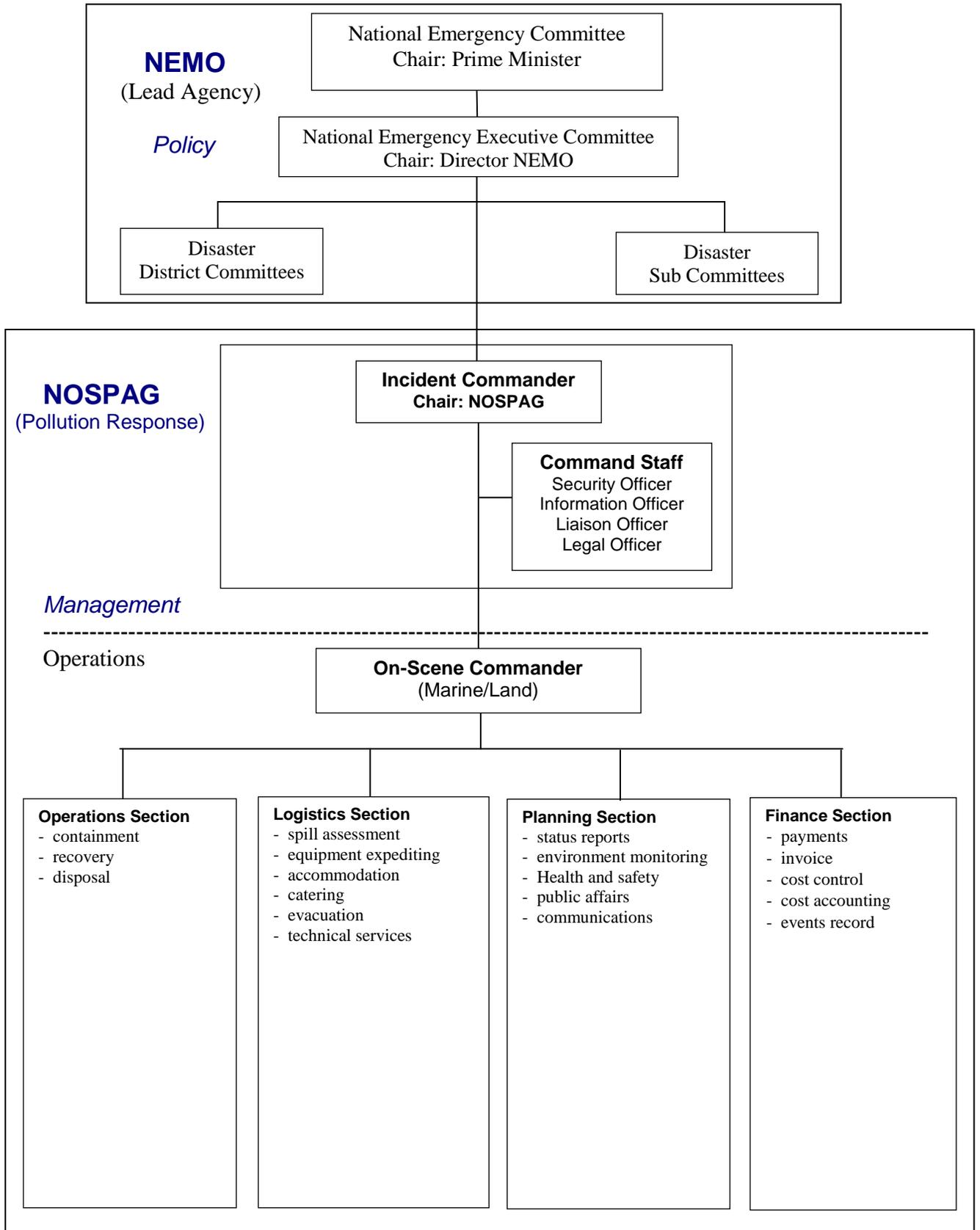
An organization chart clearly identifies individuals (according to positions) who will be involved in a spill response. It may also include administrative personnel responsible for documentation and financial aspects. An Incident Command System standardizes the process of preparing an organization chart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

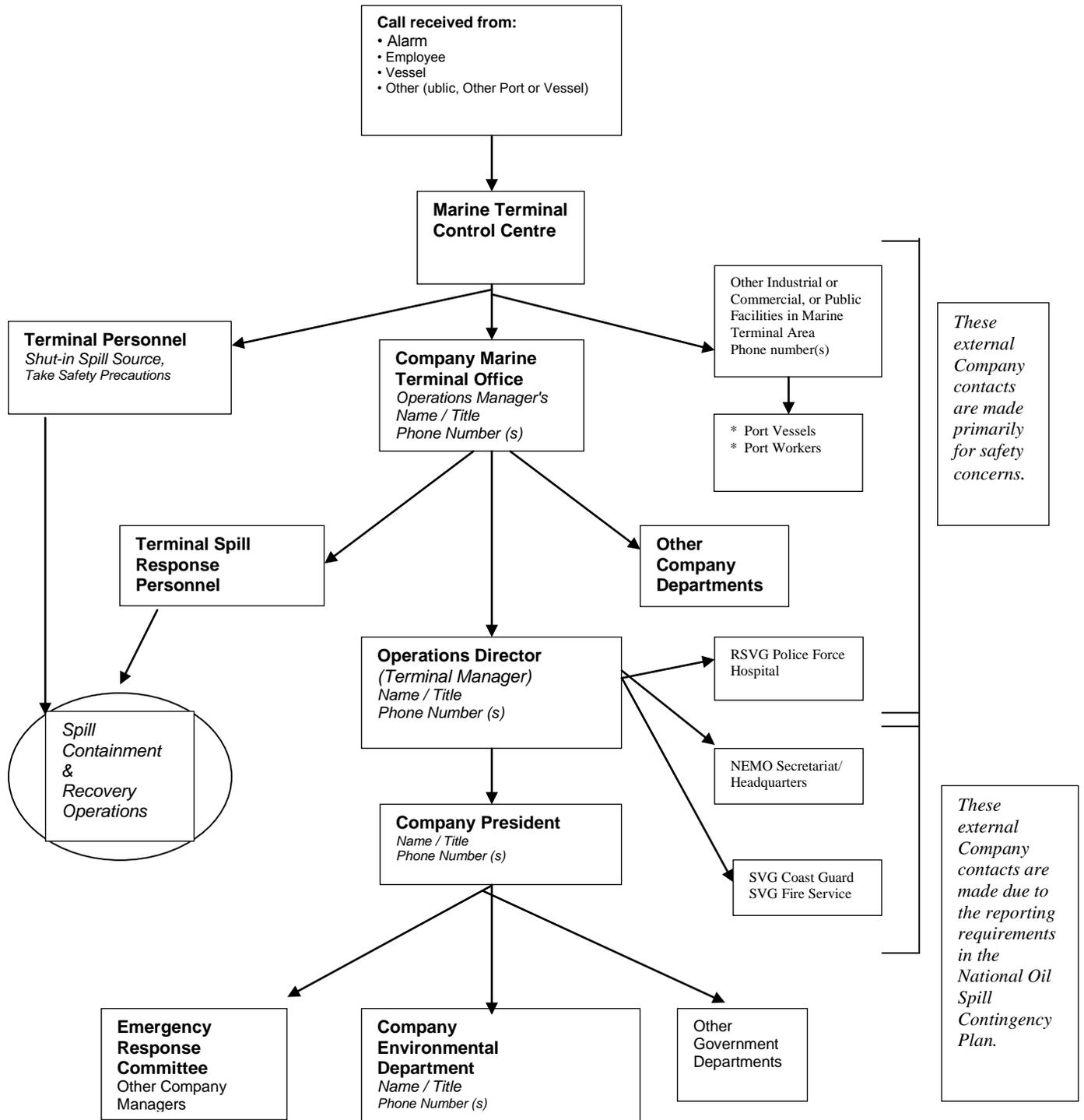
The duties and responsibilities must be detailed for all positions that appear in notification and organization charts. For some types of operations it may be beneficial to identify the duties and responsibilities for each of the three designated levels of spills.

**National Oil Spill Pollution Management Organization**



Appendix H - Alerting Sequence

Example of a Spill Notification Chart for a Company Marine Terminal in St. Vincent and the Grenadines



## **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.

<b>Type of Command Post</b>	<b>Advantages</b>	<b>Disadvantages</b>
<b>Incident Command Post</b>		
<p><b>Existing Building or Operations Room</b></p> <ul style="list-style-type: none"> <li>• Usually located at an existing facility.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Familiar to personnel and administrative methods.</li> <li><input type="checkbox"/> Negligible capital cost.</li> <li><input type="checkbox"/> Reference information is readily available.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Non mobile. Personnel may have to travel considerable distances between the Command Post and the spill site.</li> <li><input type="checkbox"/> Centre may have other uses during normal operations; time may still be required to set up facility.</li> </ul>
<b>On-Site Command Posts</b>		
<p><b>Self-contained Mobile Facility</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Includes buses, vans and trucks.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Unit is mobile and ready at all times.</li> <li><input type="checkbox"/> Not dependent on availability of contractors' equipment for transport.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Potential high initial cost.</li> <li><input type="checkbox"/> Self mobile vehicle is maintenance intensive (unit includes vehicle mechanical).</li> </ul>
<p><b>Trailer</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> May be either tractor trailer or industrial trailer type.</li> <li><input type="checkbox"/> Tractor trailer type preferred due to increased strength and clearance for rough terrain.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Medium initial cost.</li> <li><input type="checkbox"/> An existing trailer may possibly be retrofitted.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Dependent on availability of contractors' equipment for transport.</li> <li><input type="checkbox"/> Limited off road use.</li> <li><input type="checkbox"/> Vehicle maintenance requirements for chassis and hydraulics.</li> </ul>
<p><b>Skid-mounted Building</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Industrial type trailer mounted on steel skids.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Transportable via several transportation methods including: flatbed, railcar, all terrain transporter, helicopter.</li> <li><input type="checkbox"/> Lower cost.</li> <li><input type="checkbox"/> Low maintenance required for general upkeep.</li> <li><input type="checkbox"/> Diverse off-road uses.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Dependent on availability of contractors' equipment for transport.</li> </ul>

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<b>Modular Kits</b> <input type="checkbox"/> Fabricated panels of wood, sheet metal, fiberglass, or reinforced plastic.	<input type="checkbox"/> Transportable by air and smaller vehicles. <input type="checkbox"/> Low maintenance. <input type="checkbox"/> Can include all features of other options.	<input type="checkbox"/> Requires assembly on-site. <input type="checkbox"/> Can be damaged in transit. <input type="checkbox"/> Limited in size.
<b>Tents</b>	<input type="checkbox"/> Transportable by air and smaller vehicles. <input type="checkbox"/> Low maintenance.	<input type="checkbox"/> Limited operations in some weather conditions. <input type="checkbox"/> May limit the operation of computers and communication equipment.

**Command Post Equipment**

<b>Equipment</b>	<b>Considerations</b>
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 NEMO Headquarters Building. The NEMO Secretariat and the Agency for Public Information will organize media releases and conferences as necessary in support of the NOSPAG. For emergency situations, such as announcements on danger to the local population, necessity of evacuations etc., the Director of NEMO will issue announcements on local media. All such releases should be done with the concurrence of 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).

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**Appendix K - Locally Available Oil Spill Response Resources**

Examples shown in tables:

<b>Boom</b>		
<b>Item</b>	<b>Quantity</b>	<b>Company/Agency and Location</b>
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		

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

<b>Sorbents</b>		
<b>Item</b>	<b>Quantity</b>	<b>Company/Agency and Location</b>
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	2	

<b>Pumps and Hoses</b>		
<b>Item</b>	<b>Quantity</b>	<b>Company/Agency and Location</b>
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 3/4" (w/king fit)	2	

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

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

<b>Boats</b>		
<b>Item</b>	<b>Quantity</b>	<b>Company/Agency and Location</b>
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 100, length 120 to 175 ft., BHP 800 - 1900	1	Acme Shipping, Port

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

<b>Miscellaneous Tools</b>		
<b>Item</b>	<b>Quantity</b>	<b>Company/Agency and Location</b>
Shovels		
Emergency Lighting generators		

<b>Dispersants</b>		
<b>Item</b>	<b>Quantity</b>	<b>Company/Agency and Location</b>
Chemical type	1000n L	Navy, City
Folding Tanks, include weight (empty and full)		
Equipment required for spraying		

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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

St. Vincent and the Grenadines 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: 44-20-77247203 or [tliebert@osrl.co.uk](mailto: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 "worstcredible" 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**

<b>Planning &amp; Logistics</b>	Factors that influence the time to mobilize operations and the identification of associated response priorities.
<b>Spills on Land</b>	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 the Ministry responsible for works/GESCO would be used. Tar balls from illegal spillages also require beach clean-up.
<b>Spills on Water</b>	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.
<b>Spill Monitoring</b>	Spill monitoring includes safety and occupational health conditions, existing and possible environmental threats. And for river and offshore spills, trajectory modeling.
<b>Removal</b>	Techniques for skimming and collection of oil released onto land or into water.
<b>Transfer</b>	Equipment needed to move collected liquids and solids to interim storage and disposal facilities.
<b>Shoreline Cleanup</b>	Response actions required in dealing with sensitive river bank and shorelines.
<b>Control Points</b>	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.
<b>Post-Spill Activities</b>	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 1.3 above.

**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. (Refer to Paragraph 10.3.6 of the Caribbean Plan.)

**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 locating 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:

1. The Helitorch (helicopter-transported device for ejecting burning gelled gasoline (napalm) onto the oil surface
2. Incendiary devices developed by Environment Canada
3. 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, sandy and rocky beaches, wetlands 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.

On the mainland of St. Vincent, coral outcrops are found all along the leeward coast and in the south west coast of St. Vincent at Villa and Indian Bay. Various patch reefs are located throughout the Grenadines. The largest remaining mangrove stand is found in Ashton Union Island with smaller stands located in other areas in the Brighton, Bequia, Mustique, Canouan and Mayreau. There are numerous sandy and rocky beaches located across St. Vincent and the Grenadines. These resources have significant socio-economic value and are extremely sensitive to the environmental degradation that may result from oil spills.

### **National 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

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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 biological 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, for import and export of merchandice (maritime trade), to support maritime transport within the State, for economic activity e.g. the area has significant tourism infrastructure and activity.

**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.

## **National Criteria for the Determination of Critical Areas**

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.

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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.

### **The following are designated as sensitive areas:**

List to be developed taking into consideration fisheries conservation areas, marine Parks, hotel/ tourism infrastructure, etc.

## **Appendix S - Risk Assessment**

St. Vincent and the Grenadines (SVG) is an archipelagic state located towards the south eastern end of the Caribbean island chain. SVG's location within the Caribbean Sea is close to some of the world's busiest shipping lanes with a resultant high possibility of the risk of pollution from ships by oil and other hazardous and noxious substances. SVG is located near to the **St Vincent Passage**, named after the largest island of the archipelago. The **St. Vincent Passage** (13° 35' N, 61° 05' W), located between St. Vincent and St. Lucia is one of the straits of least width in the Caribbean. SVG receives on average 170 cruise calls per year, some from ships upwards of 80,000 gross tonnage. SVG has approximately 600 calls per year from ships averaging about 1500 gross tonnage. These ships present a risk of pollution from persistent oil carried as bunkers. Many more ships transit in or near to SVG. (It is estimated that over 30% of the world's crude oil passes through the Caribbean which is home to over 50% of the world's cruise shipping.)

SVG imports approximately .. gallons of white oils per annum. There are terminal facilities in Greathead Bay owned by Chevron/Texaco and by SOL. There are also terminal facilities at Lowmans Bay owned by PETRO CARIBE/VINLEC. While discharging oil at these facilities, oil spills can occur polluting the marine environment.

## **Appendix T - Training and Exercises**

- Agencies which have responsibilities within the National Plan, at each level, will have periodic and regular exercises that involve NEMO, to familiarize themselves with the operative procedures of the NEMO 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.
- [Biennially]: NEMO, 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: E.T. Joshua Airport, Canouan Airport

Port facilities include: Kingstown Port, Campden Container Port, Admiralty Bay

Main roadways are: Leeward Highway, Windward Highway

The primary staging areas are: Arnos Vale 2 playing Field, Sion Hill Playing Field, Lowman's Bay, Campden Park Container Port.

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 St. Vincent and the Grenadines 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 intercountry 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**

St. Vincent and the Grenadines is party to the following International Conventions and Agreements:

- a. Cartagena Convention and its Protocols
- b. MARPOL 73/78, III, IV, V, VI
- c. International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969
- d. Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil, 1973
- e. International Convention on Civil Liability for Oil Pollution Damage, 1969 (“1969 Liability Convention” or “1969 CLC”)
- f. 1992 Civil Liability Convention (or “CLC 92”)
- g. 1992 Fund Convention (or “Fund 92”)
  1. *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*
- h. International Convention on Salvage, 1989
- i. SOLAS 1974, modified by the Protocol of 1978 (1978 SOLAS Protocol)
- j. International Convention on Load Lines, 1996 (LL 1996)
- k. United Nations Convention on the Law of the Sea, 1982 (UNCLOS)
- l. International Convention on Standards of Training and Watchkeeping for Seafarers 1978 (STCW 1978)
- m. International Convention on Civil Liability for Bunker Oil Pollution Damage, (Bunkers 2001)

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This Plan is also linked to the following National Plans:

- a. St. Vincent and the Grenadines National Disaster Plan of 2006

### **Complementary Laws and Legal Instruments**

In addition, the following laws are relevant to the control, regulation and sanctioning of oil pollution.

## **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).

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**Appendix Z - Unit Conversions and Slick Calculations**

<b>Volume</b>		
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 <sup>3</sup>	1, 000 liters	6.29 barrels US
1 liter	0.22 gallons Imp	0.03531 ft <sup>3</sup>
1 yard <sup>3</sup>	0.765 m <sup>3</sup>	
1 ft <sup>3</sup>	0.0283 m <sup>3</sup>	
1 decimeter <sup>3</sup>	0.001 meters	1 liter
1 metric tonne	7.5 barrels US	

<b>Area</b>		
1 Acre	0.405 hectares	4, 050 m <sup>2</sup>
1 Hectare	10, 000 m <sup>2</sup>	2.471 acres
1 km <sup>2</sup>	100 hectares	247 acres
1 m <sup>2</sup>	1.196 yard <sup>2</sup>	
1 yard <sup>2</sup>	0.836 m <sup>2</sup>	9 ft <sup>2</sup>
1 ft <sup>2</sup>	0.0929 m <sup>2</sup>	
1 mile <sup>2</sup>	2.59 km <sup>2</sup>	640 acres

<b>Distance</b>		
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 cm	25.4 mm	

<b>Weight/Mass</b>		
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 was 10% 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:  $65 \text{ seconds} \times 150 \text{ knots} \div 3600 \text{ (seconds in one hour)} = 2.7 \text{ nautical miles}$

Width:  $35 \text{ seconds} \times 150 \text{ knots} \div 3600 \text{ (seconds in one hour)} = 1.5 \text{ nautical miles}$

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)  $\times$  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  $14 \times 0.1$  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 = 5 knots north

B = speed of the current = 8 knots southeast

C = direction of the slick