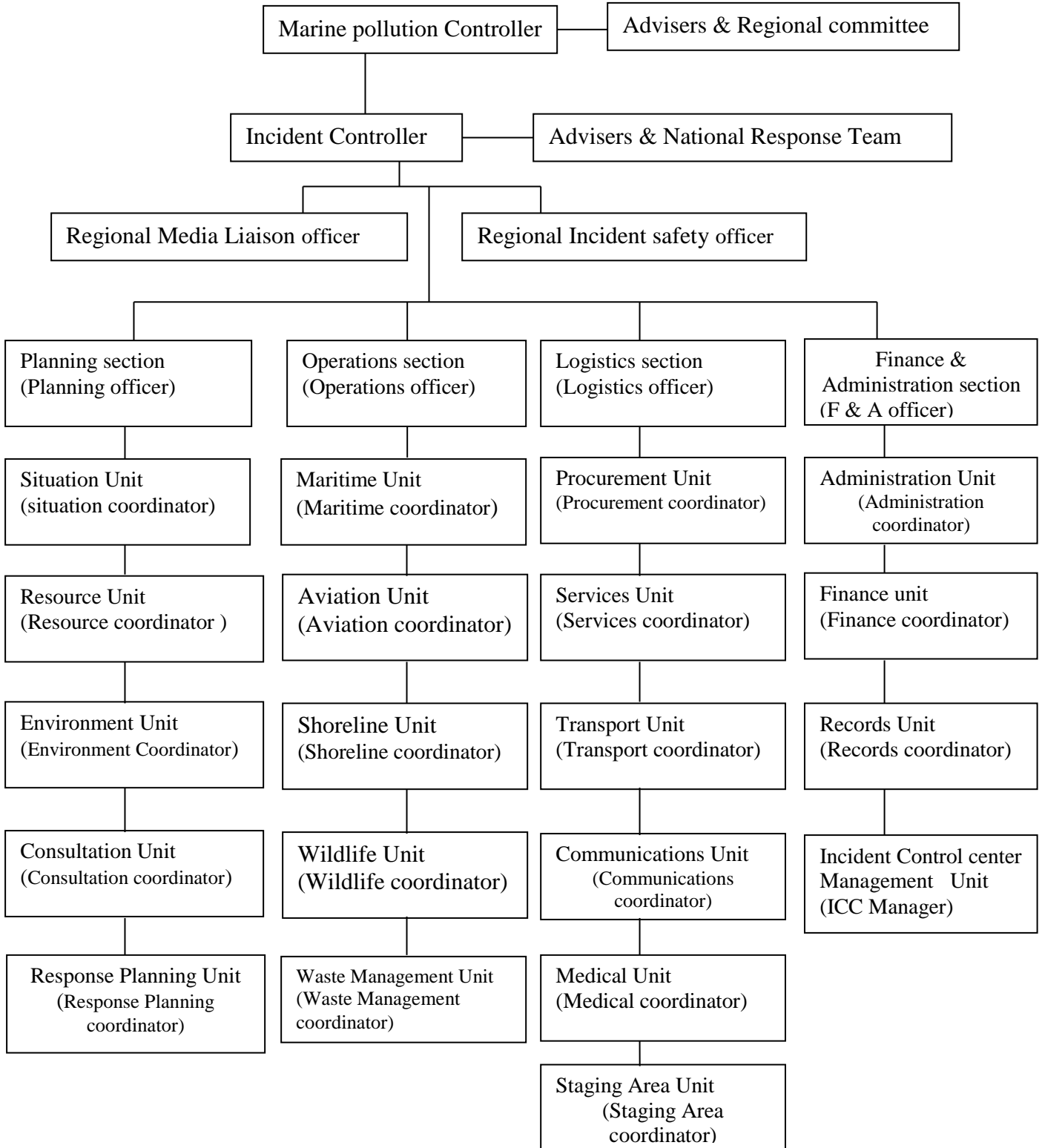


# Appendix 1

## Response Structure

### OSIRICS Response Structure



## Appendix 2

### International Codes and Guidelines Relating to the Carriage of Dangerous Goods

Under IMO rules and recommendations a distinction is made between dangerous goods in packaged form, in solid form in bulk, and liquid form in bulk. The latter category is divided into oil, noxious liquid substances and liquefied gases. Regulations covering the carriage of dangerous cargoes and the ships that carry these cargoes are found in the International Convention for the Safety of Life at Sea (SOLAS, 1974), as amended, and MARPOL 73/78.

These conventions are supplemented by the following:

- the International Maritime Dangerous Goods Code (IMDG Code);
- the Code of Safe Practice for Solid Bulk Cargoes (BC Code);
- the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code or IBC Code) applies to ships built after June 1986;
- the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (International Gas Carrier Code or IGC Code) applies to ships built after June 1986.

#### **International Maritime Dangerous Goods Code (IMDG Code)**

Compliance with the IMDG Code is mandatory<sup>1</sup> for the carriage of packaged dangerous goods by sea by virtue of its adoption by regulation VII/3 of SOLAS. The IMDG code is updated every two years in line with the UN model Regulations.

The 2006 edition is currently mandatory with the 2008 edition in transitional effect. The 2008 edition will become mandatory from the 1 January 2010. The IMDG code sets requirements regarding the transport of dangerous goods in respect to detailed recommendations for individual substances, materials and articles (including their classification) and

requirements relating to packing, labeling, stowage, segregation and handling. With the mandatory adoption of the 2008 edition on the 1st of January 2010 training for shore based personnel will become a mandatory element of compliance with the IMDG code. The code also provides a number of recommendations for good operational practice including advice on terminology, and emergency response actions.

Some minor elements of the code remain recommendatory. These are detailed in section 1.1.1.5 of the IMDG code (2008 edition)

The 2008 edition of the IMDG code is divided into two volumes and a supplement.

**Volume 1** (parts 1, 2 and 4-7 of the Code) contains sections on:

- General provisions, definitions, training;
- Classification;
- Packing and tank provisions;
- Consignment procedures;
- construction and testing of packaging, Intermediate Bulk Containers (IBC's), large packaging; portable tanks and road tank vehicles; and
- Transport operations

**Volume 2** contains the Dangerous Goods List, presented in tabular format:

- Limited quantities requirements;
- Excepted quantities requirements;
- The Alphabetical Index; and
- Appendices.
- 

**The Supplement** contains the following texts related to the IMDG Code:

- EMS Guide;
- Medical First Aid Guide;
- Reporting Procedures;
- Packing Cargo Transport Units;
- Safe Use of Pesticides;
- INF Code; and
- Relevant IMO circulars and resolutions Sections of the IMDG code of interest to responders are:

- Requirements for written statements in the form of declarations or certificates that packages, freight containers and/or vehicles are correctly packed;
- Requirements for proper shipping names, durable markings that include the UN number, and in the case of marine pollutants the addition of "Marine Pollutant" markings;
- Requirements that each package offered for transport be clearly identified with distinctive labels or stencil marking;
- Specific requirements for segregation of incompatible cargoes;
- Special lists/manifests of dangerous goods on the vessel and location details; and
- the requirement to report incidents involving the loss or likely loss of dangerous goods as specified in SOLAS regulation VII/6 and the supplement to the IMDG code.

### **Code of Safe Practice for Solid Bulk Cargoes (BC Code):**

Hazards associated with the shipment of solid bulk materials generally come under the following main categories:

- Structural damage due to improper distribution of the cargo, during and after loading;
- Loss or reduction of stability during the voyage, either due to a shift of cargo or to the cargo liquefying under the combined factors of vibration and motion of the vessel; and
- Chemical reaction such as spontaneous combustion, emission of toxic or explosive gases, corrosion or oxygen depletion putting the safety of the ship and/or crew at risk.

Chemical reactions as a result of incompatible goods being stowed in an inappropriate manner, therefore the BC Code classifies solid materials into three major categories:

- Bulk materials that liquefy (Group A);
- Bulk materials possessing chemical hazards (Group B); and

- Bulk materials which are neither liable to liquefy nor possess chemical hazards (Group C).

It should be noted that some bulk materials may fall into both Group A and Group B. Bulk materials of group B material may be deemed to be hazardous by virtue of the fact they have been classified as a dangerous good under the IMDG Code or it has been determined that they may be Materials Hazardous in Bulk (MHB). Responders should not assume that Materials deemed to be MHB pose less of a risk than those with a UN number.

### **The BC Code:**

- Highlights the dangers associated with the shipment of certain types of bulk cargoes
  - Details segregation requirement between different class of bulk material and other materials or other packaged dangerous goods;
- Gives guidance on various procedures which should be adopted;
- Lists typical products which are shipped in bulk;
- Gives advice on their properties and how they should be handled; and
- Describes various test procedures that should be employed to determine the characteristic cargo properties.

### **International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code or IBC Code)**

This code applies to vessels constructed after June 1986 for the carriage of noxious liquid substances in bulk. Vessels constructed prior to this date must comply with the BCH code.

Chemical tankers and other vessels under this code must be built to conform to internationally agreed design and construction standards, and with operational requirements such as:

- Efficient stripping of cargo tanks;
- Pre-washing with subsequent discharge to reception facilities;
- Vapor containment;

- Strict requirements for the discharge of tank washings at sea;
- Special fire fighting arrangements and personnel safety precautions where necessary; and;
- Recording of operational activities in log books.

### **International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (International Gas Carrier Code or IGC Code)**

By definition any chemicals that have a vapour pressure exceeding 2.8 bar at a temperature of 37.8 C must be carried under pressure, refrigerated or a combination of both so as to liquefy them. Vessels constructed under this code must be built to conform to internationally agreed design and construction standards, and with operational requirements. Ships built after June 1986 must comply with the code and obtain certification of fitness to carry such goods.

### **Emergency Procedures for Ships Carrying Dangerous Goods**

These procedures outline emergency actions to be used in conjunction with the IMO Medical First Aid Guide during chemical incidents. Each schedule lists:

- Special emergency equipment to be carried;
- Emergency procedures;
- Emergency actions; and
- Special remarks for specific substances.

# Appendix 3

## Key Regional Plan Contacts:

## Appendix 4

# Checklist for the Development of Regional Marine Chemical Spill Contingency Plans

Use the checklist to determine if the following concerns have been addressed within the development of the contingency plan.

(tick each item when completed)

### **ORGANISATIONAL STRUCTURE**

“Organisation structure” refers to the structure of the various organisations in place for responding to chemical and hazardous materials emergencies.

### **Are the following organisations included within the Regional Maritime Chemical Spill Contingency Plan?**

RSA Member States Maritime Safety Authority

RSA Member States Marine Pollution Controller

RSA Member States National Plan/Marine Pollution Committee

Port/Harbour Authority/Corporation

Chemical Plant/Facility Response Unit & Management

Hazardous Materials/Fire Brigade response

Chemical Industry Response/Liaison

Police

Environmental Protection Agency

Occupational Health & Safety Organisations

RSA Member States emergency services

Press, radio and television

### **Have each organisation’s responsibilities and capabilities been determined for:**

Pre-response (planning & prevention)

Response (implementation of the plan during the incident)

Post-response (cleanup and restoration)?



Has one organisation been given the command and control responsibility for the response?

Has a "chain-of-command" been established for the response control through all levels of the operation?

Are the roles, relationships, and co-ordination procedures between government and nongovernment (private entities) delineated? Are they understood by all affected parties?

How are they instituted (written, verbal)?

Who are the agencies and departments that will provide technical guidance during a response? Will they vary with the type of incident?

Does the organisational structure provide a mechanism to meet regularly for planning and coordination?

Does the organisational structure provide a mechanism for regular testing of the response organisation?

Has a simulation Regional/ National exercise been conducted within the last year to test the organizational structure?

Does the organisational structure provide a mechanism to review the activities conducted during a response or exercise to correct shortfalls?

Have trained and equipped incident controllers (IC) been identified?

Has the authority for site decisions been vested in the incident controller?

How quickly can the response system be activated?

## **HAZARD ANALYSIS**

A "hazards analysis" is generally considered to consist of the identification of potential hazards, determination of the vulnerability of an area as a result of the existing hazards, and an assessment of the risk of a hazardous substances release or spill.

(tick each item when completed)

Has a hazards analysis been completed for the area? If one exists, when was it last updated?

Does the hazards analysis include hazards arising from ship operations?

Does it make use of ship inspection reports? Does it cover safety of

navigation for ships entering and maneuvering within ports/channels/harbours etc?

Does the hazards analysis include the location, quantity, and types of hazardous substances that are manufactured, processed, used, disposed, or stored within the region?

Does it include the routes by which the hazardous substances are within the vicinity?

Have areas of public health concern been identified?

Have sensitive environmental areas been identified?

Have historical data on spill incidents been collected and evaluated?

Have the levels of vulnerability and probable locations of hazardous substances incidents been identified?

Are environmentally sensitive areas and population centers considered in analysing the hazards of the transportation routes and fixed facilities?

## **COMMUNICATION**

“Communication” means any form or forms of exchanging information or ideas for emergency response with other entities, either internal or external.

(tick each item when completed)

### **Coordination:**

Have procedures been established for coordination of information during a response?

Has one organisation been designated to coordinate communications activities?

Have radio frequencies been established to facilitate coordination between different organisations in the field?

### **Information Exchange:**

Does a formal system exist for information sharing among agencies, organisations, and the private sector?

Has a system been established to ensure that "lessons learned" are passed to the applicable organisations?

**Information Dissemination:**

Has a system been identified to carry out public information/community relations activities?

Has one organisation or individual been designated to coordinate with or speak to the media concerning the incident?

Does a communications system/method exist to disseminate information to responders, affected public, etc?

Is this system available 24 hours per day?

Have alternative system/methods of communications been identified for use if the primary method fails?

Does a mechanism exist to keep land/mobile telephone/beeper numbers up-to-date?

Are communication systems/networks tested on a regular basis?

**Information Sources and Data Base Sharing:**

Is a system available to provide responders with rapid information on the hazards and physical/chemical characteristics of substances involved in an incident?

Is this information available on a 24-hour basis? Is it available in computer software?

Is a system in place to update the available information sources?

**Notification Procedures:**

Does a network exist for notifying and activating necessary response personnel?

Has a central telephone number been established for initial notification?

Is this contact number available on a 24-hour basis?

Have specific procedures for notification of hazardous substance incidents been developed? (Where to send POLREPs?)

Does the initial notification system have a checklist of information required?

## **RESOURCES**

“Resources” means the personnel, training, equipment, facilities, and other resources available for use in responding to hazardous substance emergencies.

(tick each item when completed)

### **Personnel:**

Have the numbers of trained personnel available for chemical spills and cleanup been determined?

Has the location of trained personnel available for hazardous chemical spills been determined on a risk basis?

Are sufficient personnel available to maintain a given level of response capabilities identified in a prolonged response?

Has the availability of specialist technical expertise been identified e.g. chemists, industrial hygienists, toxicologists, health physicians, marine biologists, marine engineers, chemical ship operational experts etc.

Have limitations on the use of above personnel resources been identified?

Do mutual aid arrangements exist to facilitate support between organisations?

### **Training:**

Are centralised responses training needs available?

Is specialised training available covering marine chemical spill response?

Has the training been matched to the responsibilities/capabilities of the personnel being trained?

Have resources and organisations been allocated to provide the identified training of response personnel?

Has one group been designated to coordinate this training?

Have standardised curricula been established to facilitate consistent training?

**Equipment:**

Have response equipment requirements been identified for a given level of response capability?

Are the following types of equipment available?

Personal protective equipment including compressed air tanks and refill capability?

First aid and other medical emergency equipment?

Emergency vehicles/vessels available for hazardous substances response?

Sampling equipment (air, water, soil) and other monitoring devices (e.g. explosivity meters, oxygen meters)

Analytical equipment or facilities for analysis?

Fire fighting equipment/other chemical response equipment

- Chemical retardants
- Foams
- Inert gas generators
- Over drums/chemical recovery drums
- Drum handling equipment
- Chemical sorbents etc.

Are up-to-date equipment lists maintained and by who? Are they computerised?

Are these lists categorised into various types of equipment e.g. PPE, boats, monitoring equipment, medical supplies etc?

Have responders access on a 24-hour basis to equipment supplies?

Does a program or auditing and maintenance exist for the equipment?

Are there mutual aid arrangements for the use of specialised response equipment?

Are fast and effective transportation systems available for this equipment?

**Facilities:**

Have facilities capable of performing rapid chemical analyses been identified?

Do adequate facilities exist for storage and cleaning/reconditioning of response equipment?

Have locations or facilities been identified for the storage, treatment, recycling, and disposal of chemical wastes resulting from a spill incident?

Where are the closest facilities capable of providing medical treatment to persons injured by hazardous substances exposure?

Have facilities and procedures been identified for housing persons requiring evacuation or temporary relocation as a result of an incident?

Have facilities been identified that are suitable for command and field operations centers?

Are adequate facilities available to house and feed response personnel?

# Appendix 5

## Maritime Places of Refuge Risk Assessment Guidelines

The Guideline for the Places of Refugee Risk Assessment to be attached

# Attachments

Attachment A: Contact Details for RSA Member States National Maritime Agencies

Attachment B: Initial Information to be supplied with a Place of Refuge Request

Attachment C: Issues to be considered in continuing to respond to a Maritime Casualty at Sea

Attachment D: Selecting a Place of Refuge

Attachment E: *Pro Forma* for Transfer and Acceptance of Coordination for a Maritime Casualty or Place of Refuge Request between RSA Member States



# Attachment A

## **Initial Contact Details for RSA Member States Maritime Agencies\***

## Attachment B

### Initial Information to be supplied With a Place of Refuge Request

- A vessel requesting a place of refuge should supply the following information to assist in the decision making process:
  - Name and Flag of the vessel
  - Ship's identification number (IMO number)
  - Type of vessel and cargo classification, (access automated manifest systems such as "Sea Cargo")
  - Size (tonnage), length, beam and draft of vessel
  - Name and address of the local agent
  - Name(s) of the registered owner(s), the registered bareboat charter(s) and their registered address(es)
  - Name of registered Company, its registered address and the address(es) from where it carries out the safety management activities
  - Name(s) and contact details of the "Designated Person" nominated on the vessel's ISM Document of Compliance
  - Identification details of ship's insurers
  - Name(s) and contact details of the local P&I Club representative
  - Position of vessel (and how determined, GPS, dead reckoning, best guess)
  - Course and speed (steaming, adrift or at anchor)
  - Weather and sea conditions
  - Type and quantity of bunker fuel on board
  - Nature and quantity of hazardous or harmful substances carried
  - Cause of damage and the nature and extent of damage
  - Details of any casualties on board or in the vicinity of the ship
  - Nature of immediate assistance required
  - Actual pollution or potential for pollution
  - Response actions taken by a vessel (for e.g.: whether salvors have been contacted or engaged)

- Details of place of refuge request (area, coordinates, etc)
- Person on ship making request
- Preferred language for communications
- Details of all vessels' satellite communication numbers (for e.g.: INMARSAT C / Satphone / mobile / fax, etc, numbers)
- Date and time of request.

## Attachment C

### Issues to be Considered in Continuing to Respond to a Maritime Casualty at Sea

Maritime agencies should initially address the option of continuing to respond to a marine casualty at sea. In these situations, the following matters should be considered:

- Seaworthiness of the vessel, in particular buoyancy, stability, availability of means of propulsion and power generation, also is anchoring possible
- Current and tidal conditions at sea
- Prevailing and forecast weather conditions for the time the vessel is expected to remain at sea
- Adequate persons (in number and qualifications) on board to fulfill all functions on board and an assessment of human factors including fatigue. If not, can these personnel be supplied from shore and be placed on board
- Is a salvor at the scene and has a commercial salvage contract been concluded between the relevant parties
- Can the vessel be accessed by helicopter
- Traffic density in the incident area
- Adequate sea room and depth of water available to allow ship to drift
- Availability of sufficient tugs and support vessels and where are they stationed
- Additional safety measures to be taken to ensure the ship can safely remain at sea
- How will all imposed prevention and pre-cautionary measures such as navigation instructions, bridge complement, manning of engine room, number of tugs, etc, be complied with (e.g. representatives, inspectors or salvors on board)
- Availability of fire fighting, oil and chemical pollution combating equipment and sufficient qualified personnel

- Option to restrict or prohibit access of ships/craft and personnel and to enforce it, if circumstances so require (establishment of sea safety zones)
- Requirement for restrictions regarding the use of the sea area in the vicinity of the vessel and the use of air space above or in the vicinity of the vessel – have these been imposed by the competent authorities and how are they enforced
- Possibility of lightering at sea and availability of appropriate equipment (barges, cranes, cargo gear, etc) and personnel
- Sustainability/availability of an anchorage or berth in a port and any potential environmental or other effects
- Which financial indemnities/bonds have been or have to be requested to cover personal injuries and other damages such as damages to the environment, port channels and installations, costs for combating the incident, costs for entering a port (pilot, tugs, crew etc), port dues, delays to other vessels/cargoes in the port, leased berth usage, cargo handling, repairs, disposal of any types of wastes, wreck removal, etc. Also is there a need for financial bonds, etc, to cover costs associated with environmental / socioeconomic / cultural assessments and
- How and up to which amount have these been secured (e.g. bonds, bank guarantee, letter of indemnity, etc).

# Attachment D

## Selecting a Place of Refuge

### Operational Criteria

The following operational criteria must be considered in selecting a place of refuge:

- What is the state of the vessel – does it urgently require access to the nearest place of refuge or can the vessel endure a longer passage to a place of refuge with either better facilities and resources or one which is of lesser environmental, socio-economic and cultural sensitivity
- What are the risks posed by the vessel in distress to the population, environment and installations, particularly those requiring special protection, at the intended place of refuge and in the vicinity, taking into consideration the “worst case” scenario and the likelihood of it actually occurring, if it is shifted to the intended place of refuge
- In case of dangerous goods on board – the type of goods on board and what affects may result from one of the incidents mentioned above
- Overall risk posed to coastal waters, marine species, coastline or proposed place of refuge
- Estimated distance and transit time to place of refuge
- Adequate sea room and depth of water with relatively unobstructed approach from seaward
- Presence of good holding ground for both immediate anchoring during approach and at place of refuge
- Availability and positioning of suitable tugs or other support vessels during approach
- Availability of helicopters or fixed wing aircraft for rescue or surveillance and/or pollution response function
- Provision of marine pilot during approach
- Prevailing weather conditions during approach

- Shelter from prevailing and forecast weather and swell at place of refuge and forecast weather conditions for the time vessel is expected to remain at place of refuge
- Access to place of refuge by land, sea and air transport modes
- If it is desirable or necessary to bring the vessel into a port, availability of suitable anchorage or berth, risks of entry into port such as potential channel blockage, environmental effects (spills etc,) effect on ongoing port operations such as delays to other vessel movements, berth/facility lease arrangements and consequential cargo impacts of berth use especially if cargo is to be discharged.
- Availability of fire fighting, oil and chemical pollution response equipment and operating personnel
- Availability of reception facilities for harmful and dangerous cargoes
- Compliance with instructed preventative measures (navigational directions, marine surveyor/salvor aboard to ensure compliance with preventative instructions, tugs in attendance as directed, compulsory pilotage)
- Any requirement under Administration legislation or for commercial/operational reasons to post an adequate bond to cover any risk (pollution, grounding, damage to port facilities, business disruption, etc)
- Restricting or prohibiting unauthorised vessels/vehicles and personnel as required during operation
- Through Air Services, restriction on use of air space of the any RSA Member States over and in the vicinity of the vessel at the place of refuge, if required
- As required, notification of relevant agencies such as Quarantine, Immigration and Customs
- When practical, and particularly where serious impact to coastal resources may occur, consultation with the community should be undertaken as soon as possible
- Agreement by the Master and/or the owner of the ship to the proposal

### **Environmental, Cultural and Socio-economic Criteria**

The requirements listed under must be considered in conjunction with the operational criteria:

- Assessment of environmental risk to ecological, cultural and socio-economic resources, both along the approach to, and at the proposed place of refuge. This may include inter alia assessment of ecological and socio-economic resources include reefs, islands, coastline, significant species, sensitive habitats, fisheries, commercial activity and amenities and assessment of risk to culturally significant resources including sites, .species, etc
- Analysis of “worst case” scenario, the likelihood of the scenario occurring and the effects on environmental, cultural and socio-economic resources
- Liaison with environmental and cultural groups within the community and
- Concurrence or approvals of statutory agencies.



## Attachment E

### **Pro Forma for Transfer and Acceptance of Coordination for a Maritime Casualty or Place of Refuge Request between RSA Member States**

It is hereby agreed that the [NAME OF RSA Member States AGENCY transferred coordination for the:

(a) Maritime casualty [VESSEL NAME]1

(b) Place of refuge request from the [VESSEL NAME] 1

To the [NAME OF COMMONWEALTH / STATE / NT AGENCY] which accepted coordination on [SPECIFY DATE AND TIME].

Signed by:

Name: Name:

Position: Position:

NAME OF RSA Member States AGENCY TRANSFERRING STATE / RSA Member States AGENCY ACCEPTING COORDINATION

1 - Strike out which ever is not applicable

# Appendix 6

POLREP Format

## **Regional Marine Pollution Report (POLREP)**

**Regional PolRep to be attached**

# Appendix 7

## Harmful Substances Report Format

**(Sections of the ship-reporting format, which are inappropriate, should be omitted from the report)**

This report is for use when reporting discharge or potential discharge of oil or noxious liquid substance carried in bulk.

A Ship name, call sign/ship station identity and flag

B Date and time of event

(Note: time must be expressed as Universal Co-ordinated time)

C Position: latitude and longitude; or

D Position: true bearing and distance

E True course

F Speed in knots and tenths of knots

L Route information/intended track

M Radio communications: full names of stations (including INMARSAT)

N Time of next report

(Note: Time must be expressed as Universal Co-ordinated time)

P\*\*1. Type of oil or the correct technical name of the noxious liquid substances on board

2. UN number or numbers

3. Pollution category (X,Y,Z) for each noxious liquid substance

\*\* (Note: In the case of a probable discharge, item P should be included)

Q1. Condition of ship, as relevant

2. Ability to transfer cargo/ballast/fuel

R1. Type of oil or the correct technical name of the noxious liquid substance discharged into the sea

2. UN number or numbers

3. Pollution category (A,B,C, or D) for each noxious liquid substance

4. Names of manufacturers of substances or consignee or consignor

5. An estimate of the quantity of each substance

6. Whether lost substances floated or sank
  7. Whether loss is continuing
  8. Cause of loss
  9. Estimate of the movement of the discharge or lost substances giving current conditions, if known
  10. Estimate of the surface area of the spill
- S Weather conditions (give brief details of weather and sea conditions prevailing)
- T Name, address, telex and telephone numbers of the ship's owner and representative
- U Ship size and type
- X 1. Action being taken with regard to the discharge and to the movement of the ship
2. Assistance or salvage efforts which have been requested or to which have been provided by others
  3. The master of an assisting or salvaging ship should report the particulars of the action undertaken or planned

# Appendix 8

## Regional Marine Pollution Situation Report (SITREP)

### **Marine Pollution Situation Report (SITREP)**

**Regional Marine Pollution Situation Report (SITREP) to be attached**

# Appendix 9

## Sampling Procedures Chemical Spills

### **Caution**

*The identity of all chemicals involved in a spill event must be determined prior to any personnel being deployed to sample the spill. The properties, flammability, toxicity and health effects of the chemicals must be evaluated and appropriate PPE provided to sampling personnel. Special safety requirements such as static earthing of equipment is necessary when sampling chemicals in potentially explosive vapour environments.*

*Expert advice must be sought prior to sampling to determine the correct sampling equipment. Some chemicals may be incompatible with sampling equipment e.g. Hydrofluoric acid (HF) will attack glass equipment, some acids will dissolve metal devices evolving hydrogen gas.*

*Some light volatile chemicals can escape from screw top containers or dissolve internal Teflon liners. Such chemicals will require specialised crimped septum vials. The road, rail or air transport of certain hazardous or noxious substances requires State/Regional permits and specialised transport requirements. These requirements will be based upon the type and quantity of chemical(s) being transported. It is recommended that expert chemical advice and the services of specialised chemical transport organisation or laboratories be sought in the development of chemical sampling and transport procedures.*

### **Collection of Samples**

Samples of chemical spills from the marine environment (water and foreshore areas) and all potential sources should be taken with the minimum of delay before a chemical spill dissipates. All samples should be contained in clean glass jars (preferably sterilized glass jars if available) and information about where the samples were taken should be recorded.

This information should be provided to the laboratory to assist with the analysis of the samples. All samples should be kept in a cool, dark, secure

location (i.e. within an insulated container, a refrigerator if available) prior to secure transport to the laboratory or other.

**Marine environment** - Every effort should be made to obtain representative samples of the pollutant from the water and foreshore areas or other polluted areas (including wildlife). A number of samples should be taken from various locations within the spill. Note that any drains or outfalls in the area should also be sampled so they can be eliminated as a potential source of the spill. Blanks or clean water samples should also be taken upstream/outside the spill area and provided to the laboratory.

**Ships** – Sampling ships should only be undertaken with the assistance of an authorized officer with relevant shipping and chemical expertise. All potential ships that could have been responsible for the spill must be obtained. It is just as important to be able to eliminate ships as well as identifying the ship responsible. Samples should be taken from all potential tank sources onboard the ship, particularly if prosecution is envisaged. Information on how the sample was obtained should also be recorded and provided to the laboratory.

### **Continuity of Samples**

To be admissible as evidence, samples taken must be proved conclusively to be in an appropriate person's possession until delivery to the laboratory. This requires that rigid controls be instituted and maintained to establish continuity for the samples from the time of initial sampling.

### **Delivery of Samples**

Where samples are collected for the purpose of prosecution appropriate safeguards need to be ensured during their transport. Couriers can provide transport of samples from the person responsible for its collection and/or custody to the designated analyst, incorporating rigid controls and security.