



Lord Howe Island

Marine Oil & Chemical Spill Contingency Plan

February 2015

Authorisation

The Lord Howe Island Marine Oil & Chemical Spill Contingency Plan has been prepared as a supporting plan to the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan* to coordinate local resources in responding to a maritime incident in the state waters of Lord Howe Island. This Plan complies with the State emergency management arrangements and the National Plan arrangements.

Contents

Authorisation2

Contents3

Amendments5

Definitions.....7

Abbreviations.....9

1 Introduction 10

 1.1 Aim 10

 1.2 Scope of the Plan 10

 1.3 Legislation 11

 1.3.1 NSW Marine Pollution Act 2012 12

 1.3.2 State Waters as Defined in the Marine Pollution Act, 2012 12

 1.3.3 Protection of the Environment Operations Act 1997 12

 1.4 Planning Limitations..... 13

 1.5 Activation 13

2 Roles and Responsibilities14

 2.1 RMS (combat agency) 14

 2.2 Lord Howe Island Board 14

 2.3 Port Operations Manager 15

 2.4 NSW Marine Parks Authority 15

 2.5 Transport for NSW 15

 2.6 Fire & Rescue NSW..... 15

 2.7 Port Authority of New South Wales 16

 2.8 Functional Areas..... 16

 2.8.1 NSW Environment Protection Authority..... 16

 2.8.2 NSW Department of Primary Industries (DPI) 16

 2.9 NSW Office of Environment and Heritage 16

 2.10 Emergency Operations Controller (EOCON) Local, District and/or State .. 17

3 Response Policy 18

 3.1 Levels of Response 18

 3.1.1 Escalation of a Response..... 18

 3.2 Oil Spill Response Incident Control System 19

 3.2.1 Marine Pollution Controller (MPC)..... 20

 3.2.2 Incident Controller 20

 3.2.3 Operations Section..... 21

 3.2.4 Planning Section 21

 3.2.5 Logistics Section 21

 3.2.6 Finance and Administration Section..... 21

 3.2.7 Support Staff 22

 3.2.8 Liaison Officers 22

 3.2.9 Workplace Health and Safety 22

3.3	Incident Control Centre (ICC)	23
3.4	Financial Procedures	23
3.5	Obtaining Samples for Evidence	24
3.6	Response	24
3.6.1	Initial Notification	24
3.6.2	Incident Assessment and POLREP	24
3.6.3	Initial Response	24
3.6.4	Overall Protection Priorities	25
3.7	Tier One Response Equipment	25
3.8	Tier Two/Three Equipment	26
3.9	Oil Spill Response Options	26
3.9.1	Monitor	27
3.9.2	Containment and Recovery	27
3.9.3	Application of Dispersants	27
3.9.4	Shoreline Clean-up	27
3.9.5	Disposal of Oil and Oily Waste	28
3.10	Debriefing Arrangements	30
3.11	Contingency Plan Support	30
3.11.1	Description of the Area	30
3.11.2	Geographical Scope	30
3.11.3	Risk Assessment	30
3.11.4	Vulnerable Communities	31
3.11.5	Climate and Current/Tidal Effects	32
3.11.6	Environmental Considerations	33
3.11.7	Bird and Wildlife Protection	34
3.11.8	Personnel Deployment to the Island	34
4	Administration	36
4.1	Training	36
4.2	Updating of the Plan	36

Appendices

Appendix 1.	Contact List	38
Appendix 2.	Chart and Map References	39
Appendix 3.	Incident Management Team Structure	40
Appendix 4.	Incident Control System Response Structure for Major Response	41
Appendix 5.	Pollution Report (POLREP).....	42
Appendix 6.	Situation Report (SITREP)	44
Appendix 7.	Risk Assessment Form (OSRICS Form 14).....	47
Appendix 8.	Guidelines for the Collection of Oil Samples	53
Appendix 9.	Behaviour on Water of Four Representative Petroleum Products.....	54
Appendix 10.	Lord Howe Island Oil Pollution Combat Resources	55
Appendix 11.	Equipment Held by the Lord Howe Island Board and Suitable	56
Appendix 12.	Vessel Resources	57
Appendix 13.	Special Conditions for Dispersant Use	58
Appendix 14.	Condition of Estuary Mouths and Their Suitability for Closure.....	59
Appendix 15.	Location of Access to Beaches on Lord Howe Island	60
Appendix 16.	Communications Equipment	61

Amendments

This Plan will be subject to annual review and updating. It is essential however, that all organisations listed in this Plan reports any relevant alterations and changes regarding their agency’s structure or functions. Suggested amendments or additions to the contents of this Plan are to be forwarded to:

shipping@transport.nsw.gov.au

or

Manager, Marine Pollution Response
Freight and Regional Development Division
Transport for NSW
PO Box K659
HAYMARKET NSW 1240

Amendments promulgated should be recorded in the table below.

Number	Type	Section Number	Date
One	Major review and reissue of entire document.	All sections	Mar 2006
Two	Major review and amendments to various sections. Reissue of entire document.	All sections	Oct 2010
Three	Revision of Agencies names, responsibilities, etc	All sections	Oct 2013
Four	Minor Revision – Legislation and Port Authority name change	All sections	Feb 2015

Definitions

For the purposes of this Plan, except where the context otherwise indicates, the following definitions apply.

Assessment - in relation to an incident includes the confirmation of a spill, an initial assessment of the extent of the spill and reporting the finding to the appropriate agency/individual.

Combat agency - the agency identified in EMPLAN as the agency primarily responsible for controlling the response to a particular emergency. [Source: *State Emergency and Rescue Management (SERM) Act 1989*].

EMPLAN - the NSW Emergency Management Plan. The object of EMPLAN is to ensure the coordinated response to emergencies by all agencies having responsibilities and functions in emergencies. [Source: *SERM Act*].

Functional Area - a category of services involved in preparations for an emergency, including the following:

- (a) Agriculture and Animal Services;
- (b) Communication Services;
- (c) Energy and Utility Services;
- (d) Engineering Services;
- (e) Environmental Services;
- (f) Health Services;
- (g) Public Information Services;
- (h) Transport Services; and
- (i) Welfare Services;

[Source: EMPLAN]

Incident - any discharge or escape, or potential discharge or escape, of any oil or chemical substance into State waters during its handling, transport or storage that can be dealt with at a local level usually by a single agency with no or limited support by other local agencies/organisations.

Incident Control Centre – the centre established at a state, district or local level as a centre for the control and coordination of operations during an emergency. There is only one incident control centre for a response. Other centres established by supporting agencies are referred to as emergency operations centres.

Incident Controller - the individual responsible for the management of all operations in response to an incident.

Marine Pollution Controller - is responsible for overall management of a Tier Two/Three response to an incident and supports the Incident Controller at a senior management level. This person must be capable of high level liaison with Ministers as well as senior government and industry representatives and media liaison.

National Plan – means the *National Plan for Maritime Environmental Emergencies*. A plan agreed to by the Commonwealth and state/NT governments and the oil, shipping and exploration industries to provide a response capability to the threat posed to the coastal environment by maritime oil and chemical spills.

Port Operations Manager – RMS appointed delegate to undertake maritime related functions in relation to maritime incidents and vessel operations. The Local Police Officer undertakes this function on behalf of RMS.

State waters - as defined in the *Marine Pollution Act, 2012*. (See the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan* for full explanation.)

State waters consist of the territorial sea from the low water mark seaward for three nautical miles as well as those waters prescribed by the *Marine Pollution Regulation 2014*, being:

- ◆ Yamba (part of the Clarence River);
- ◆ Coffs Harbour;
- ◆ Port Macquarie (part of the Hastings River);
- ◆ Port Stephens (part of Port Stephens);
- ◆ Newcastle (part of the Hunter River);
- ◆ Sydney (all of Sydney Harbour and Middle Harbour, Parramatta River and Lane Cove River up to the tidal limits.);
- ◆ Botany Bay;
- ◆ Port Kembla;
- ◆ Jervis Bay (excluding Commonwealth waters); and
- ◆ Eden (Twofold Bay).

Note: State waters do not include bays such as Port Hacking, Broken Bay or local fishing ports which are inland waters.

Abbreviations

AASFAC – Agriculture and Animal Services Functional Area Coordinator
AMSA - Australian Maritime Safety Authority
DPI – NSW Department of Primary Industries
EMPLAN – NSW State Emergency Management Plan
EPA – NSW Environment Protection Authority
FRNSW – Fire & Rescue NSW
IAP – incident action plan
ICC - Incident Control Centre
IGA - Intergovernmental Agreement
LEMO - Local Emergency Management Officer
LHIB – Lord Howe Island Board
MPC - Marine Pollution Controller
NPWS – National Parks and Wildlife Service
National Plan - National Plan for Maritime Environmental Emergencies
OEH – Office of Environment and Heritage
OSRA – Oil Spill Response Atlas
OSRICS – Oil Spill Response Incident Control System
POEO - <i>Protection of the Environment Operations Act 1997</i>
POLREP - Pollution Report
REMO – Regional Emergency Management Officer
RMS – Roads and Maritime Services (Maritime Division)
SERM Act - <i>State Emergency and Rescue Management Act 1989</i>
SITREP – Situation Report
TfNSW – Transport for NSW

Part 1 Introduction

1 Introduction

As a signatory to the Intergovernmental Agreement (IGA) for the *National Plan for Maritime Environmental Emergencies* (National Plan), NSW has prepared the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan* which sets out the State arrangements for responding to maritime oil and chemical spills.

This Plan is titled the *Lord Howe Island Marine Oil and Chemical Spill Contingency Plan*. It also describes the responsibilities of Roads and Maritime Services (RMS), Transport for NSW (TfNSW), the Port Authority of New South Wales (PANSW) the Lord Howe Island Board (LHIB) and other relevant government agencies. Under these arrangements RMS is the combat agency for maritime incidents at Lord Howe Island, its associated island groups and the adjacent coastal waters for three nautical miles seaward, including the NSW Lord Howe Island Marine Park, hence the requirement for a local oil and chemical spill contingency plan.

This Plan should be read in conjunction with the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan* and is also supported by the *North Coast Emergency Management District Disaster Plan*.¹

1.1 Aim

The aim of this Plan is to outline the arrangements to deal with oil or chemical spills and maritime incidents that could lead to an oil or chemical spill that is likely to impact the Island or its surrounding waters and restore the affected area to normal operations in an orderly and timely manner.

In this Plan a reference to an oil or chemical spill includes a reference to any maritime incident that has the potential to result in an oil or chemical spill.

1.2 Scope of the Plan

This Plan covers the State waters surrounding Lord Howe Island, its associated island groups and the NSW Lord Howe Island Marine Park (see Figure 1).

This Plan details procedures for:

- ◆ notification of a maritime incident to relevant agencies;
- ◆ assessment of, and initial response to, the incident;
- ◆ establishing a response structure using the Oil Spill Response Incident Control System (OSRICS); and
- ◆ escalating the response if the local resources are unable to deal with the incident.

¹ Endorsement – November 2012.

Note: “Districts” are now formally titled “Regions”

The title of “Emergency Management” will replace “Disaster” in future versions

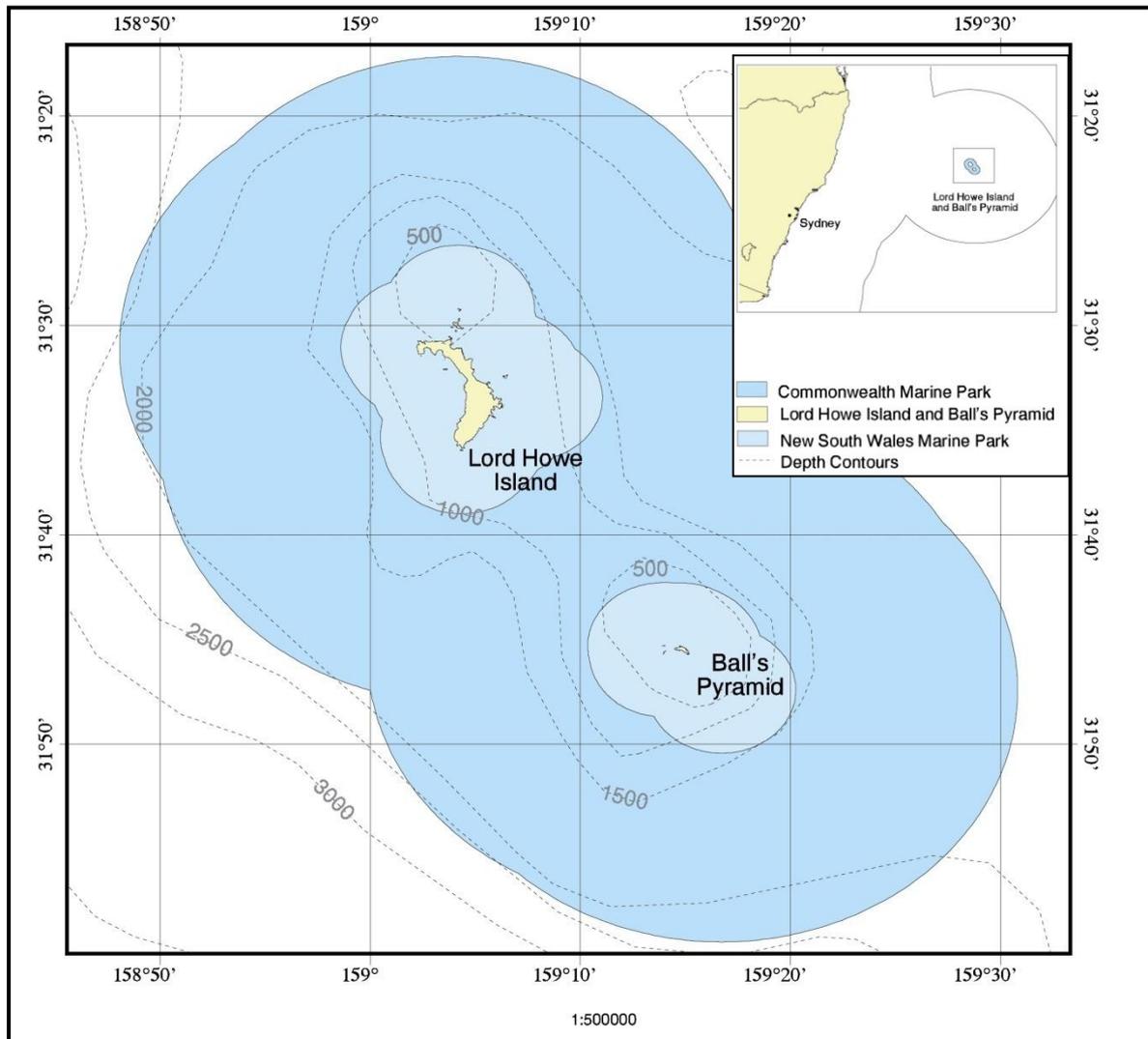


Figure 1 Area of Coverage

1.3 Legislation

Maritime incidents involving trading ships and commercial vessels are covered under the *Marine Pollution Act 2012*; however, recreational vessels are specifically excluded from the *Marine Pollution Act 2012*.

The *Protection of the Environment Operations Act 1997* (POEO) also covers commercial vessels as well as recreational vessels. Hence commercial vessels such as fishing boats and passenger ferries are covered by both Acts with respect to dealing with pollution from these vessels.

These acts give RMS the flexibility and power to respond to and clean up oil and chemical spills from any type of vessel.

1.3.1 NSW Marine Pollution Act 2012

The *Marine Pollution Act 2012* provides the Minister with powers of intervention in regard to the detention or direction of commercial and trading vessels and for preventing, combating and cleaning up of oil and other noxious substance spills in State waters. The Minister has delegated these functions to RMS.

RMS and TfNSW personnel are delegated powers under section 183 of the *Marine Pollution Act 2012* which provides the authority to:

- ◆ prevent or limit a discharge;
- ◆ disperse or contain any oil or oily mixture or noxious liquid substance that has been discharged;
- ◆ remove any oil or oily mixture or noxious liquid substance from waters or land affected by any discharge; and
- ◆ minimise the damage from pollution resulting from or likely to result from any discharge.

The RMS Chief Executive, Director Maritime, General Manager Boating Operations and a number of TfNSW personnel have additional powers to direct and/or detain a vessel.

1.3.2 State Waters as Defined in the Marine Pollution Act, 2012

State Waters are defined in section 3 (1) of the *Marine Pollution Act, 2012* and a detailed explanation can be found in the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*. For the purpose of this Plan, State waters include the coastal waters seaward for three nautical miles of the Island's coast.

1.3.3 Protection of the Environment Operations Act 1997

The *POEO Act* applies to all navigable waters. RMS and TfNSW Authorised Officers have certain powers delegated under the *POEO Act*. These powers apply to non-pilotage vessels² in navigable waters. This may include:

- ◆ give clean up direction to the owner or occupier of a vessel in writing or orally;
- ◆ direct a person to take preventative action by notice in writing; and
- ◆ take action to cause the notice to be complied with.

Additionally, an Authorised Officer has the power to enter premises for the purpose of taking action to cause the notice to be complied with.

² A non-pilotage vessel means any vessel other than:

- (a) a vessel for which pilotage is compulsory under Part 6 of the *Ports and Maritime Administration Act 1995* in any port, and
- (b) a vessel for which pilotage would be compulsory under Part 6 of the *Ports and Maritime Administration Act 1995* in any port if the master did not hold a pilotage exemption certificate.

Source – Clause 84 Protection of the Environment Operations (General) Regulation 2009

1.4 Planning Limitations

This Plan is applicable to maritime oil and chemical spills and any maritime incident that could lead to an oil or chemical spill in the State waters surrounding Lord Howe Island, and assumes that the resources on which this Plan relies are available when required and additional support is available through the *North Coast Emergency Management District Disaster Plan*.³, the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*, the National Plan and the NSW emergency management arrangements.

1.5 Activation

The NSW EMPLAN and other NSW emergency management (Disaster) plans, including this Plan, do not require formal activation, they are active at all times. However, the notification procedures in Section 3.6.1 must be followed.

³ Endorsement – November 2012.

Note: "Districts" are now formally titled "Regions"

The title of "Emergency Management" will replace "Disaster" in future versions

Part 2 Roles and Responsibilities

2 Roles and Responsibilities

Responsibility for responding to maritime oil and chemical spill incidents is set out in the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*. RMS is the combat agency for maritime incidents in adjacent coastal waters seaward to three nautical miles.

TfNSW has overall responsibility for ensuring that marine oil and chemical spills are responded to quickly and effectively. The Marine Pollution Response Unit within the Freight and Regional Development Division of Transport for NSW manages the RMS maritime incident capability in conjunction with RMS Maritime Divisional management. This includes providing an Incident Controller, personnel and expert advice where required.

Fire & Rescue NSW (FRNSW) is the combat agency for oil and chemical spills in all inland waters.

Regardless of which agency bears combat responsibility, other agencies shall assist in accordance with this Plan and the NSW EMPLAN arrangements.

Depending on the size of an oil or chemical spill a number of different agencies may be involved. Section 2 of the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan* sets out the roles and responsibilities of agencies that may be involved in a major maritime incident response. For the purposes of this Plan the agencies most likely to be involved in a Tier One response are:

2.1 RMS (combat agency)

Under the State Plan arrangements RMS is the combat agency for marine oil and chemical spills for Lord Howe Island and its surrounding State waters.

The role of RMS is to:

- ◆ confirm and assess a reported incident;
- ◆ notify other relevant agencies of the incident;
- ◆ provide an Incident Controller (IC) and other trained emergency response personnel to respond to the incident;
- ◆ establish an Incident Control Centre (ICC) and manage the incident response; and
- ◆ make available all response equipment available at Lord Howe Island.

2.2 Lord Howe Island Board

Because of the remoteness of the Island the Lord Howe Island Board (LHIB), as a participating agency, will control the response on the Island, under the direction of the combat agency. Refer to Appendix 3 for a typical Incident Control Structure with LHIB as the Incident Controller.

The LHIB will:

- notify the combat agency of any marine oil or chemical spill incident (actual or potential);
- provide a suitable location for the Incident Control Centre (ICC) on the Island;
- provide staff to support the incident operations on the Island;
- provide appropriately trained staff to fill the key Oil Spill Response Incident Control System (OSRICS) positions (Appendix 4); and
- provide telephone, fax and photocopying facilities for the ICC.

2.3 Port Operations Manager

- Make an initial assessment of any reported oil or chemical spill or marine incident;
- collect samples of the oil;
- inform the Board of their assessment; and
- assist the response by filling a suitable position within the OSRICS which is assigned to him by the Incident Controller.

2.4 NSW Marine Parks Authority

- Integrate NSW Marine Parks Authority (MPA) resources with the resources of the Board to assist in combating any spill or incident; and
- MPA staff on the Island will fill suitable positions within the OSRICS structure as assigned by the Incident Controller.

2.5 Transport for NSW

The role of TfNSW is to:

- ♦ provide an alternative Incident Controller (IC) and other trained emergency response personnel to manage or respond to the incident;
- ♦ provide expert marine incident management and response advice;
- ♦ make available emergency response equipment under its control; and
- ♦ provide a liaison officer on request.

2.6 Fire & Rescue NSW

FRNSW is a supporting agency that may be called upon to provide advice and support to the combat agency as follows:

- ♦ protecting and saving life and property endangered by chemical spill incidents;
- ♦ provision and coordination of the supply of specialist resources for oil and chemical spills;
- ♦ rendering the site of an incident safe; and
- ♦ provide a liaison officer on request.

2.7 Port Authority of New South Wales

The Port Authority is to:

- ♦ provide trained emergency response staff on request;
- ♦ make available emergency response equipment under its control; and
- ♦ provide a liaison officer on request.

2.8 Functional Areas

Under the NSW emergency management planning arrangements, Functional Areas are a category of Government agency involved in the provision of support and resources for emergency response and initial recovery operations. Functional Areas are coordinated by various government agencies and would support a maritime incident response. The most likely agencies to be involved in a local response are listed below.

2.8.1 NSW Environment Protection Authority

The Environment Protection Authority (EPA) is the coordinating agency for the Environmental Services Functional Area and is to:

- ♦ provide environmental and scientific advice to the Incident Controller;
- ♦ provide advice on suitable disposal strategies for the recovered oil and oiled debris; and
- ♦ provide a liaison officer on request.

2.8.2 NSW Department of Primary Industries (DPI)

The Department of Primary Industries (DPI) is the coordination agency for the Agricultural and Animal Services Functional Area and is responsible for the rescue and rehabilitation of oiled wildlife. The Agricultural and Animal Services Functional Area is to activate the Agriculture and Animal Services Plan utilising the assistance of the participating and supporting agencies. Activation of the plan may include:

- ♦ establishing a wildlife treatment centre;
- ♦ on-site assessment of wildlife;
- ♦ coordinate the transport of wildlife as needed;
- ♦ provide appropriate personnel for the response; and
- ♦ provide a Liaison Officer on request.

2.9 NSW Office of Environment and Heritage

The Office of Environment and Heritage (OEH) is to:

- ♦ provide environmental and scientific advice to the Incident Controller;
- ♦ provide heritage advice to the Incident Controller;
- ♦ provide National Parks and Wildlife Service support to the Incident;
- ♦ provide Marine Parks support to the Incident;
- ♦ provide a liaison officer on request.

2.10 Emergency Operations Controller (EOCON) Local, District and/or State

The EOCON at local, district and/or state level may be called upon to support the Combat Agency as follows:

- monitor the response;
- coordinate support resources at the appropriate level if requested to do so by the Combat Agency.

Part 3 Control and Coordination

3 Response Policy

3.1 Levels of Response

In Australia, oil and chemical spills and the responses they require are categorised into 'tiers' and 'levels' respectively. The National Plan has adopted the concept of a tiered response, which consists of three categories to cover all sizes of oil and chemical spills. The concept of a tiered response links the credible spill scenarios to attainable scales of response and, by linking joint arrangements, enables escalation from one tiered response to another, should the need arise. It is a practical means of planning spill response both in terms of personnel and equipment. The National Plan's three tiers/levels of response are described in section 3.1 of the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*. This Plan is designed to respond to Tier One spills as described in Table 1.

The quantity of oil or chemical discharged does not automatically determine the response level but is used as a guide to determine the most appropriate response. The level of response will depend upon the type of oil or chemical, magnitude of the spill, its potential and immediate threat to human health and the environment, as well as the available combat resources.

For oil or chemical spills of greater than 10 tonnes or where the local resources are inadequate, the response will be escalated and the provisions in the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan* would be implemented as well as the Regional EMPLAN.

3.1.1 Escalation of a Response

Control and co-ordination of incidents are conducted at the lowest effective level. Responsibility for response to and recovery from oil or chemical pollution incidents rests initially at the local level. Initially, oil spill response equipment will be mobilised from the stockpile held at Lord Howe Island and also use any other suitable local resources. For an incident that cannot be effectively managed at the local level the arrangements in the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan* will be used to mobilise additional resources.

Once an accurate picture is obtained of the incident, the Incident Controller, in consultation with the Principal Manager North Area (RMS) and the Manager, Marine Pollution Response (TfNSW) will decide the level of response required to combat the spill. As the combat phase proceeds, resource requirements will be constantly re-evaluated.

Tier/ Level	Oil (tiers of response)	Chemical (levels of response)
1	<p>These are local spills less than 10 tonnes, which may occur more frequently and would normally only require a response from the combat agency with assistance from other local agencies and organisations if necessary.</p> <p>The response would be escalated when it is apparent that local resources are insufficient or inadequate to effectively manage the response.</p>	<p>A chemical incident that only requires response within the boundaries of the berth, vessel or small geographical area. No public health and/or environmental impact or problems are anticipated outside the operations area.</p> <p>Combat agencies will generally be able to respond to and clean up a spill with local resources. When additional resources are required, these will generally be available from the chemical industry, local port authorities or by using National Plan resources in the region or from adjacent industry operators.</p>
2	<p>These are generally medium spills in the order of 10 to 1,000 tonnes (approx 10m³ to 1,000m³) of oil.</p>	<p>A significant chemical incident/emergency that can be responded to within the boundaries of the berth, vessel or geographical area, but which may have a serious impact on public health and/or the environment.</p>
3	<p>These are very large spills generally greater than 1,000 tonnes (>1,000m³). These spills are rare events and could require national or possibly international resources.</p>	<p>A chemical incident/emergency that will pose a very serious impact on human life and/or affect the environment significantly. It requires the activation of support resources up to national or international level.</p>

Table 1. Characteristics of Tier/Levels of Oil and Chemical Spills

3.2 Oil Spill Response Incident Control System

The National Plan arrangements use the Oil Spill Response Incident Control System (OSRICS) to manage the response to a maritime oil or chemical spill. A more detailed description of the system is provided in Section 3 of the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*. At a local level, for Tier One oil spills that are likely to be encountered in the port, a small team is usually sufficient to manage the response. OSRICS is implemented in a simplified structure, as shown in Figure 2. For large or complex incidents the structure shown in Appendix 4 would be implemented.

Initially the Incident Controller may carry out all of the OSRICS functions (operations, planning, logistics and administration). As the response develops some of these functions may be delegated to other persons as the workload increases. The Operations Officer is typically the first position to be delegated functions.

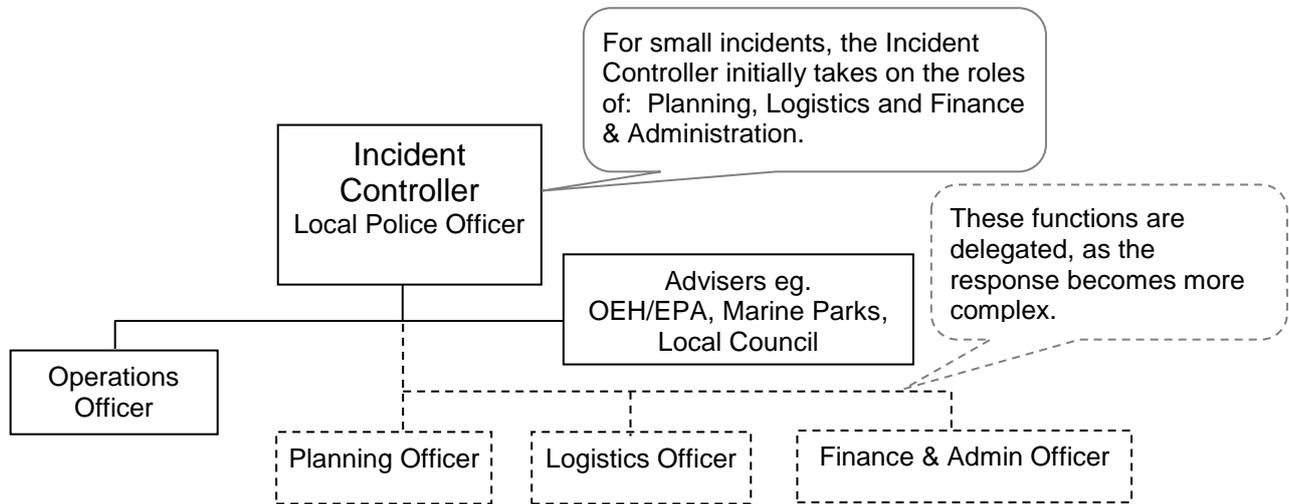


Figure 2 OSRICS structure for small incidents.

3.2.1 Marine Pollution Controller (MPC)

The portfolio Minister has appointed the Deputy Director-General, Freight and Regional Development of Transport for NSW as the Marine Pollution Controller. The Director Maritime (RMS) and General Manager Freight Network Efficiency and Regulation (TfNSW) are also appointed as alternate MPCs.

The MPC is responsible for the overall state response to a major oil or chemical spill. The MPC assists the Incident Controller in areas such as liaison with the relevant Ministers, industry representatives and media so that the Incident Controller can focus on managing the response.

This role is generally not activated for Tier One incidents, however, the MPC will monitor the response and provide additional support as necessary.

3.2.2 Incident Controller

The Incident Controller will be the Principal Manager North Area, (RMS) or Manager Marine Pollution Response (TfNSW) or other designated RMS personnel, who will take action to:

- ◆ ensure that the appropriate organisations and individuals are notified of the spill and kept informed of events;
- ◆ establish an incident control centre (ICC) with the appropriate personnel;
- ◆ control the combat area;

- ◆ if possible, stop the discharge of oil or chemicals;
- ◆ deploy local equipment for initial response;
- ◆ contain and collect the spilled pollutant or disperse it based upon operational and scientific advice;
- ◆ clean any polluted foreshores;
- ◆ facilitate the establishment of a wildlife rescue and rehabilitation capacity if required;
- ◆ establish communication links with local and district emergency management officers if necessary; and
- ◆ ensure that proper records are kept of all actions and progress.

3.2.3 Operations Section

The Operations Section is responsible for implementing the operational requirements of a response and providing operational input to the planning process. For small incidents that only require a simple response the Incident Controller may also undertake this role, eg removing scattered tar balls from a beach. If the incident requires a complex response then an Operations Officer may need to be appointed.

3.2.4 Planning Section

The Planning Section is responsible for the provision of information on all aspects of an incident, the response to that incident and the development of an Incident Action Plan. For small incidents the Incident Controller usually undertakes the planning role. If the incident requires a complex response then a Planning Officer may need to be appointed.

3.2.5 Logistics Section

The Logistics Section is responsible for the supply of services and resources to support and sustain the operational response to an incident. For small incidents the Incident Controller usually undertakes the logistics role. If the incident requires a complex response then a Logistics Officer may need to be appointed.

Both the planning and logistics roles can be undertaken by the same officer for small incidents.

3.2.6 Finance and Administration Section

The Finance and Administration Section is responsible for the provision of finance and administrative services to the response organisation and for the collation of costs and all records related to an incident. During small incidents the Incident Controller can usually manage this aspect of a response. The local RMS Area Coordinator or Product Services Officer may also assist in this aspect of a response.

3.2.7 Support Staff

Depending on the size and complexity of an incident, the Incident Controller will be assisted and advised by designated support staff from RMS and other local agencies. The Local Emergency Management Officer (LEMO) should be available to support the Incident Controller.

3.2.8 Liaison Officers

Each organisation involved in a response may be asked to provide a liaison officer to be deployed to the ICC. Liaison officers represent their organisation or functional area and maintain communications with and convey directions/requests to their organisation or functional area, and provide advice on the status, capabilities, actions and requirements of their organisation or functional area.

3.2.9 Workplace Health and Safety

The importance of health and safety of the responders and public in any response operation is paramount. The NSW Work Health and Safety Act 2011 makes it the responsibility of all employers, self employed and employees to ensure the health, safety and welfare of all employees as well as those not employed but in the place of work. Included in this responsibility is a requirement to ensure that all personnel have sufficient periods of rest and are provided with adequate facilities for their welfare.

The Incident Controller and the incident management team should ensure that the safety of personnel overrides all other considerations and that all personnel engaged in cleanup activities have been instructed in the occupational health and safety aspects of the area of activity. The degree of risk will vary with each spill situation, depending on the circumstances. The OSRICS Form ICS14 (Appendix 7) should be used to carry out a risk assessment of all activities to be undertaken in the response. Responders must be given a safety briefing based on the risk analysis before undertaking response work. Response teams must carry out a risk assessment, using the “Take 5” or other similar method of the work required before starting a task.

Responders must be provided with the correct personal protective equipment (PPE) for the task assigned.

Potential hazards to clean up teams may come from:

- ◆ fire;
- ◆ oil;
- ◆ dispersants;
- ◆ machinery (plant);
- ◆ exposure/fatigue (heat and cold); and
- ◆ wildlife.

The limitations of available equipment and craft should be known and kept in mind throughout all phases of the operation. Fresh crude oil and many petroleum products emit flammable gases. The risk of fire should always be considered, particularly when fresh oil is confined by booms or under harbour structures, etc.

Equipment deployed in close proximity to fresh oil must be flameproof and non-sparking. Operations of small craft employed in clean-up operations should be made aware of the dangers, which exist through:

- ◆ the use of internal combustion engines and electric motors;
- ◆ concentrations of flammable gases entering the air intakes of diesel engines causing the machinery to race; and
- ◆ personnel smoking.

The risk of fire must also be considered in shoreline clean-up operations. The degree of risk will depend on the type of oil and the extent of weathering.

Equipment for personnel cleaning (decontamination) should be considered as part of the overall response.

Personnel should seek expert advice if in doubt. This can also be provided by TfNSW or FRNSW.

3.3 Incident Control Centre (ICC)

The ICC used by the Incident Controller will vary depending upon the size of the incident. At the simplest level the ICC may be the Incident Controller's vehicle at the scene of the incident. The LHIB offices have been designated as the Incident Control Centre in the event of a significant marine pollution incident.

3.4 Financial Procedures

Response costs associated with oil spills are generally recovered from the polluter, where identified. A range of International agreements and conventions exist generally ensuring that costs of response to and clean up of ship sourced oil spills can ultimately be recovered. Where the responsible person cannot be identified, or costs cannot be recovered (after due effort has been taken to recover them), response costs beyond an agreed limit can be claimed from the National Plan.

Where the polluter is identified or suspected, an acceptable financial guarantee should be sought from the vessel's insurers (Protection and Indemnity Club) prior to allowing the vessel to depart. A request for a financial guarantee should be made as early as possible after determining the source of the spill. Any request must be made by Director Maritime or Marine Pollution Controller (including Deputies) who have the delegated authority to make such a request. Other personnel within TfNSW also have related delegations.

Throughout a maritime oil pollution incident detailed records must be kept of the cost of all operations (use of personnel, equipment, etc.). This will assist in cost recovery from the polluter and any legal action that may be required to recover costs.

Agencies providing oil spill response equipment must be reimbursed hire and maintenance costs following each occasion when their equipment and consumables are used.

3.5 Obtaining Samples for Evidence

It is the responsibility of the Port Operations Manager or Incident Controller to ensure that adequate samples are taken for analysis. The vessel suspected of causing the pollution and any other vessels in the vicinity of the incident as well as the pollutant itself should be sampled. The number of samples taken will be dependent on the nature of the incident. Samples should be taken without delay to minimise changes in composition of the pollutant. Every effort should be made to obtain an uncontaminated sample of pollutant for comparison purposes, particularly if prosecution is envisaged.

Sampling bottles used must be specially prepared to ensure that they are free from any contamination. Once samples are taken (Appendix 7 provides guideline for sampling) it is of the utmost importance to ensure a verifiable 'chain of custody' is recorded and maintained and given to the analytical laboratory along with the samples.

Appendix 8 describes the behaviour on water of four representative petroleum products.

3.6 Response

3.6.1 Initial Notification

The Principal Manager North Area (RMS) and Manager Marine Pollution Response (TfNSW) must be notified as soon as possible of any oil or chemical spills or shipping incidents within the State waters of the NSW North Coast (See Appendix 1).

The Island's Port Operations Manager is to provide initial notification of all incidents, as soon as possible, to the Duty Officer via the Transport for NSW 24 hour response telephone number shown in the Contacts List (Appendix 1).

3.6.2 Incident Assessment and POLREP

The Island's Port Operations Manager will normally investigate all reported spills within the port limits. Once the assessment is made the information must be sent to, the Principal Manager North Area (RMS), and the Manager Marine Pollution Response (TfNSW) in the form of a Pollution Report (POLREP) see Appendix 5.

3.6.3 Initial Response

Initial response will depend on the size and location of the spill and is shown below:

For a Tier One spill, the Incident Controller:

- ◆ provides the Principal Manager North Area (RMS) and the Manager Marine Pollution Response (TfNSW) with an initial Pollution Report (POLREP);
- ◆ notifies local agencies and coordinates the clean up, using local resources;
- ◆ sends daily Situation Reports (SITREP) to the Principal Manager North Area (RMS), and the Manager Marine Pollution Response (TfNSW); and

- ◆ provides a final report of the incident to the Principal Manager North Area (RMS), and the Manager Marine Pollution Response (TfNSW) when the incident response is completed.

For a Tier Two or three spill the Incident Controller:

- ◆ provides the Principal Manager North Area (RMS) and the Manager Marine Pollution Response (TfNSW) with a POLREP;
- ◆ notifies local agencies;
- ◆ initiates a first strike response using local resources; and
- ◆ requests additional resources and support.

It is important that appropriate agencies are kept advised of all significant developments during a response. The Incident Controller should ensure that periodic SITREPs are dispatched to the appropriate agencies.

SITREPs should take the form outlined in Appendix 6. The last SITREP in a series covering one incident should display the words FINAL SITREP.

3.6.4 Overall Protection Priorities

Protection priorities to be employed during a response to an oil or chemical spill are, in order of descending priority:

1. human safety and health;
2. habitat and cultural resources;
3. rare and/or endangered flora and fauna;
4. commercial resources, such as oyster farms; then
5. amenities, such as beaches.

In assessing protection priorities, a balanced view needs to be maintained on the likely success of protection strategies. This is of particular importance when it is unlikely that such strategies will be successful in protecting a higher sensitive resource, but could be successful in the protection of other less sensitive resources.

Every oil and chemical spill incident has its own unique health and safety dangers to which response personnel may be exposed. The protection of the public and that of response personnel should always be of prime importance in the decision making. Any response should be carried out in accordance with expert advice regarding the health and safety of personnel and the public. It is important that all risks are evaluated prior to personnel entering the incident area. Operations must be suspended or terminated if an unsafe condition arises during a response.

3.7 Tier One Response Equipment

The Lord Howe Island has a Tier One response capability for up to a nominal ten tonne spill response. The equipment is stored at the shed adjacent to the main lagoon wharf. A list of the equipment is at Appendix 9.

3.8 Tier Two/Three Equipment

Additional response equipment can be mobilised from the Port Authority of New South Wales and the National Plan stockpile using the arrangements set out in section 4.16 of the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*.

The airport on Lord Howe Island can accommodate commercial aircraft as large as Dash 8 and military transport aircraft such as a Hercules C130. This ability to handle such aircraft will facilitate the movement of equipment from various NSW and interstate locations if necessary. Lord Howe Island Aerodrome is equipped with permanent emergency runway lighting activated on demand.

3.9 Oil Spill Response Options

A number of options exist for the treatment of oil, which has been released into the marine environment. These are described in the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*. All may be effective to a degree, according to the type of oil, the prevailing conditions and the sensitivity of the environment under threat.

The following basic oil spill response options are available to the Incident Controller:

- ◆ if possible, control or stop the discharge of oil or chemical from the source;
- ◆ monitor;
- ◆ containment and recovery;
- ◆ application of dispersant; and
- ◆ shoreline clean-up.

The response options for chemicals spills are limited in number due to the range of behaviours of chemicals in the marine environment and generally not tested due to the infrequency of such spills. It is paramount that when a chemical spill does occur specialist advice is sought from the FRNSW, the Environment Protection Authority and the chemical industry. A detailed chemical supplement can be found in section 4.11 of the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*.

Before decisions can be made on a control strategy, specific local information is essential. Apart from determining the exact location of the slick, information must be obtained on:

- ◆ The quantity of oil spilled and its chemical and physical characteristics. Crude oils and petroleum products have a wide range of characteristics, which will influence spreading, evaporation, dissolution, emulsification and weathering.
- ◆ The quantity of oil spilled will govern the “scale” of control operations.
- ◆ Conditions affecting the direction and speed travelled by the slick. Surface-wind velocity and direction and surface-current velocity and direction will influence the movement of the slick, the current having more influence than the wind. Forecasts of wind and weather changes must be considered.

- ◆ Conditions affecting the likely choice of strategy. Surface conditions such as wave heights and directions of swells, water temperature and meteorological conditions (rain, mist, visibility, cloud cover) will influence the practicability of either containment and recovery or chemical dispersion.

3.9.1 Monitor

Depending on the location of the spill, if there are no threats to environmentally sensitive areas or it is unlikely that the oil will come ashore, biological and physical processes will naturally disperse most of the oil over a period of time. In these circumstances the most appropriate action may be to do nothing other than monitor the movement of the oil. Leaving the oil to disperse and degrade naturally creates the least disturbance to the marine environment, however, the 'do nothing' option requires sound advice to the media to clearly explain why no other action, apart from monitoring the pollutant, has been taken.

3.9.2 Containment and Recovery

The traditional response to an oil spill is containment and recovery of the oil on the water. The decision to contain and recover the oil will be greatly influenced by prevailing weather conditions. In some cases it may be appropriate to allow the oil to come ashore, then undertake a shoreline clean-up.

Oil may be recovered from the surface of the water using booms and skimmers. This method is generally only effective:

- ◆ in relatively smooth waters with a minimum influence of wind, tide or currents;
- ◆ if an adequate supply of storage facilities are available for recovered oil and debris; and
- ◆ if access to the area is possible without causing additional damage to the environment.

Use of booms alone may protect environmentally sensitive areas, allowing oil to be deflected to other areas from where it may be recovered or allowed to degrade naturally.

3.9.3 Application of Dispersants

There will be occasions when offshore containment is impractical. Depending on the resources at risk and the feasibility of other response options, the use of dispersant to accelerate the dispersal of the oil slick can be an effective option.

The use of dispersant should be done in conjunction with expert environmental advice from the Environment and Scientific Coordinator who will undertake a Net Environmental Benefit Analysis.

Appendix 12 contains further information on special conditions for dispersant use.

3.9.4 Shoreline Clean-up

Weather and other circumstances permitting, every effort should be made to either disperse or contain and recover oil as close as possible to the source of the spill. However, it is inevitable that some oil may come ashore. The location of a spill, oil

type, weather conditions, rate of oil movement and speed will determine whether the bulk of the spilled oil can be recovered before it reaches the shore.

Where oil does come ashore, the extent of clean-up of oiled shorelines is to be carefully planned with the view of minimising further environmental damage which may result from the clean-up operation.

Sometimes, oil on shorelines may best be left to weather and degrade naturally. This option must be considered where oil impacts a sensitive area such as mangroves, salt marshes, mud flats or remote areas. In these areas the clean-up operations can result in more environmental damage than the oil itself due to physical disturbance and substrate erosion.

The selection of shoreline clean-up techniques depends on many different factors, including:

- ◆ type of substrate;
- ◆ characteristics of oil (tar balls, pooled, thin coating, etc);
- ◆ amount of oil on the shoreline;
- ◆ depth of oil in the sediments;
- ◆ presence of wildlife and/or environmental or culturally significant sites;
- ◆ prevailing oceanographic and meteorological conditions; and
- ◆ access for personnel and equipment.

Shoreline clean-up methods may consist of one or more of the following methods, depending on the extent of oiling and the shoreline environment:

- ◆ removal of floating or pooled oil;
- ◆ use of sorbent materials;
- ◆ low pressure flushing;
- ◆ high pressure flushing;
- ◆ mechanical collection and removal of oiled material and vegetation;
- ◆ manual collection and removal of oiled material and vegetation; and
- ◆ use of bioremediation agents.

When planning a shoreline cleanup the decision making procedures and cleanup methods as described in the “Shoreline Response Handbook” published by Wardrop Consulting should be followed.

3.9.5 Disposal of Oil and Oily Waste

Oil recovery operations can generate large amounts of oil and oiled materials. It is therefore crucial that management strategies and disposal methods be addressed as early as possible by the combat agency and relevant authorities. As oil spills have the potential to generate differing types of waste it is important that these products be kept segregated if they are in significant quantities. A management strategy should be developed for each of the different waste streams.

Oil recovered from the sea surface may be emulsified and also contaminated with a variety of solids such as seaweed, wood, plastic materials of various types, dead birds and animals which complicate handling and disposal. Appropriate collection and disposal techniques have to be selected for the particular circumstances.

Oil recovered from the shoreline may also contain sand and gravel, pebbles, rocks, seaweed and beach debris.

When removing sand or structural material from a beach it is paramount that a minimum volume should be taken to preserve the integrity of the beach and to minimise the volume of waste requiring disposal.

Disposable personal protective equipment and other products such as absorbent materials, rags etc can also generate large amounts of waste that need a collection, management and disposal strategy to be detailed in a waste management plan.

The type and volume of waste will depend upon the size and location of the spill and the clean-up methods employed. Generally, significant volumes of solid debris will be generated and collected as a result of clean-up efforts. It has been estimated that for an oil spill at sea, the volume of any recovered oil requiring disposal will be the collected oil volume multiplied by a factor of five to take into account the entrained water content. For shore based cleanup, the volume of collected oil should be multiplied by a factor of ten.

The collected mass of oil spill debris must be properly stored, transported and disposed of to minimise the potential for further adverse environmental impacts.

Permanent disposal of oil and oiled debris is likely to require its transport to the mainland. However, temporary storage will be required and the following site is recommended for potential temporary storage of recovered pollutant and contaminated materials:

- ◆ Lord Howe Island Waste Management Facility(Lagoon Road)

Temporary holding of oily debris is also possible on beaches in plastic lined pits, IBCs or open drums. Other temporary sites may be available according to priorities and the consideration of the Board. All selected sites must meet the following criteria:

- storage is compatible with on site and adjacent land use.
- is within a reasonable distance from impacted areas.
- is free of leachate problems and would not pose a risk to groundwater supplies.
- waste can be covered to prevent the ingress of water into containers during rain periods.

The Engineering Services Functional Area and Environmental Services Functional Area can assist in the management of waste disposal.

In any clean-up operation a point is reached when the marginal benefits of further clean up are outweighed by the effort and costs of continuing. The Incident Controller should determine the point at which further effort and expenditure in the cleanup becomes unreasonable and terminate the cleanup phase of the response. Guidelines for determining the degree of cleanness required can be found in the *NSW State Waters Marine Oil and Chemical Spill Contingency Plan*.

It is the responsibility of the Incident Controller to ensure that:

- ◆ Shoreline areas are agreed by relevant stakeholders to be clean to a satisfactory level and “signed off” as completed;
- ◆ plant and equipment is clean and returned to its owners;
- ◆ any labour contracts are terminated;
- ◆ any requirements for ongoing site monitoring are put into place and the appropriate agency has responsibility for it; and
- ◆ the necessary paperwork for claims against either the polluter or the National Plan Levy Fund is completed.

3.10 Debriefing Arrangements

As soon as practicable after completion of the clean-up operations, a full debriefing session should be held to evaluate the response and to assist in planning future operations.

The debriefing session should be organised by the Incident Controller and attended by all key personnel and appropriate members of the support teams.

3.11 Contingency Plan Support

3.11.1 Description of the Area

Lord Howe Island is located 350 nautical miles off the NSW coast, east of Port Macquarie. It is 2.8 kilometres wide and 11 kilometres long, it covers 1,445 hectares and has approximately 24 kilometres of coastline. The western side of the island features a lagoon and a barrier reef, which is the southernmost coral reef in the world. The lagoon is approximately 6 kilometres long and 1.5 kilometres across at its widest point.

3.11.2 Geographical Scope

The geographical area covered by this plan is Lord Howe Island, its associated island groups and the NSW Lord Howe Island Marine Park. Relevant charts and topographic maps references are shown in Appendix 2.

3.11.3 Risk Assessment

Marine traffic density is minimal. Vessels plying between Pacific Island ports, and between New Zealand and Queensland ports, pass within 2 to 5 nautical miles of the island depending upon the sea state, wind and visibility.

A low potential exists for a significant oil spill from a marine casualty through a collision or grounding. The following indicates the normal maximum amounts of oils carried by ships in the area:

- Product tankers 30,000 - 40,000 tonnes refined products
- Crude tankers 40,000 - 100,000 tonnes crude/fuel oil
- Dry cargo vessels 1,000 tonnes bunker fuel

Seasonal weather influences suggest, however, that ship groundings due to cyclones are possible. The maximum potential of an oil spill of up to 100,000 tonnes of cargo could occur through a collision with another vessel or grounding. A smaller quantity would be more likely in the latter event. Passing traffic may also present the potential for pollution through illegal discharges.

A small general cargo vessel, the *Island Trader*, typically visits the island on a fortnightly basis from the NSW port of Port Macquarie. The *Island Trader* is a 499 GRT vessel and carries 8-9 tonnes of marine diesel as fuel in bottom tanks. The *Island Trader* has the capacity to transport 80 tonnes, approx. 97,000 litres, of bunkered diesel fuel to the island as cargo.

To date the maximum volume of bulk diesel transported to the island has been 73,000 litres. In addition 6,000 litres of unleaded petroleum in 2,000 litre containers and up to 33,000 litres of jet fuel (Avgas and Jet A1) in 200 litre drums are transported to the island as cargo.

The diesel is pumped from the hold into 1,300 litre alloy containers in a bunded area within the vessel. The containers are then lifted by crane onto a truck, transported to the Powerhouse and decanted by gravity into the underground storage tanks. As noted above, assorted other fuels in 200 litre drums are transferred from the vessel, four per lift, by crane. The drums are then trucked to various holding tanks on the Island.

Between 100 and 150 recreational vessels visit the island from 28 footers up to large maxi and super yachts. The average recreational vessel's fuel capacity is 500 - 1000 litres of diesel or petrol.

There is little potential for an oil spill resulting from land based activities.

3.11.4 Vulnerable Communities

The resident population of Lord Howe Island is 350 and, during the summer period, total number of tourists and guests of residents on the Island is in the order of 1100. Approximately 20,000 tourists visit the Island each year staying at the 20 accommodation lodges. The peak season is from mid December to March. Tourism is the major industry and source of income on Lord Howe Island.

Recreational pressure in the area is significant. During the tourist season, Ned's, Blinky and Lagoon beaches are used extensively for recreational activities such as swimming, surfing, fishing, snorkelling and diving.

Middle and Ned's beaches and Curio Point provide anchoring and protection for a variety of visiting recreational vessels. In the financial period 66 small craft moored in the lagoon on designated moorings, which included 23 yachts competing in the Gosford to Lord Howe Island Yacht Race. Numerous other vessels also visited the island either anchoring or on-route.

On 17 December 1982 Lord Howe Island was inscribed onto the World Heritage List. The inclusion of the Island on this List recognises that the island group is an outstanding example of an island system developed from submarine volcanic activity. Its coral reef is the southernmost coral reef in the world. The area is also a State Marine Park (3 nm surrounding LHI and Balls Pyramid) and a Commonwealth Marine Park between 3 and 12 nautical miles.

The island has a high proportion of rare and endemic animals, plants and invertebrates. Balls Pyramid, a monolithic spire, lies 23 kilometres south-east of Lord Howe Island, rising 550 metres from the sea. It is 1,100 metres long and 400 metres wide at its base.

Elizabeth and Middleton reefs are two extensive coral atolls which lie 100 and 130 nautical miles, respectively, north of Lord Howe Island. They are the southernmost coral atolls in the world, representing 64 species, covering 98 square kilometres and some areas are exposed at low tide. Elizabeth Reef is 8 x 5.5 km in size and Middleton Reef is 9 x 6 km and, like Lord Howe Island, they are the peaks of volcanic seamounts.

3.11.5 Climate and Current/Tidal Effects

For much of the year the mid-latitude high-pressure belt dominates the climate of Lord Howe Island. During winter there is a progression of high-pressure cells from west to east, with a cold front between each cell. Much of the Island's rainfall is associated with these systems. Following the passage of a front, the wind is SW and, as the cell progresses, the wind swings to S, SE, E, NE, then NW before the arrival of the next front (Hutton 1986). During this time winds of 60 knots are not uncommon and winds greater than 70 knots occur periodically between May and September. The frequency of fronts and the strength of the winds decrease from September (C. Wilson, pers. comm.).

Cold fronts occur periodically during the summer months with winds commonly SE at 20 - 25 knots easing off to calm. Fresh easterly winds predominate during the summer months when the high pressure cells are south of the region (Hutton 1986). From January to March the Trade Winds are from the E and SE at 12 - 20 knots.

Strong winds and heavy rain in the region are often caused by low pressure cells which develop off the NSW coast then move over the Island. Similar weather is seen when the remnants of cyclones move south towards the Island.

Water temperatures range from 17⁰C in winter to 25⁰C in late summer. The average air temperature during summer is 26⁰C during the day dropping to 18⁰C overnight while the winter air temperatures range between 18⁰C during the day

and 13⁰C at night. The summer rainfall minimum is 106 mm (February) while the winter maximum is 188 mm (July).

In calm conditions the maximum tidal range in the region is approximately 2 metres. The presence of high-pressure systems over the Island results in a tide lower than predicted while low pressure or cyclonic conditions result in a tide higher than predicted.

Ocean currents are very unpredictable due to the comparatively limited area of the rise on which Lord Howe Island stands and on the effects of periodic storms and cyclones. Generally, the summer tidal currents set from the NW to SE and the winter tidal currents set from the S, SE to the N, NW.

3.11.6 Environmental Considerations

The NSW Environment Protection Authority (EPA) coordinate scientific support in the event of an oil spill in NSW State waters, which also includes expert advice from the Office of Environment and Heritage (OEH). To support the EPA and OEH in this role, an Oil Spill Response Atlas (OSRA) exists which is designed to provide information on environmentally and socio-economically sensitive areas, potential conflicts of interest and oil spill countermeasures for resource protection. The OSRA can be accessed by contacting the TfNSW Maritime Incident Duty Officer.

Most of the rocky foreshores on the Island and surrounding islands are exposed to high wave energy. Any decision to clean these areas should first consider factors including the safety of personnel, the effectiveness of natural weathering (aided by high wave energy) the volume of free oil and its potential for remobilisation. This decision should be made based on expert scientific advice.

The brackish creeks and their entrances to the sea contain mangrove and/or sallywood habitats. In the event of a major spill it would be necessary to protect the estuaries to prevent environmental damage. This can be achieved by closing the creek mouths either with booms or with earth moving equipment to create a temporary barrier, given sufficient material, adequate access and suitable weather conditions. The condition of estuary entrances and their suitability for the use of booms or closure by mechanical means is outlined in Appendix 13.

The range of corals, seagrass beds (located at North Beach and Old Settlement Beach) and intertidal invertebrate fauna found at this latitude makes this an area of international significance. The Lord Howe Island outer reef is the southernmost coral barrier reef in the world while Elizabeth and Middleton Reefs Marine National Nature Reserve contains the two southernmost coral atolls. At least 490 species of fish are known to occur in the reefs off Lord Howe Island and at least 307 species in Elizabeth and Middleton reefs.

Elizabeth and Middleton reefs are one of the remaining habitats of the black cod *Epinephelus doemelli* which was once common along the NSW coast. It is now extremely rare but is widely distributed throughout this nature reserve.

Beaches are considered as moderately sensitive to oil and chemical pollution. The pollutants can be cleaned from the beaches. Lagoon, Ned's and Blinky beaches are used intensely between mid December and March/Easter and heavily promoted as tourist attractions. The local community would be unlikely to accept closure of the beaches for any extended period and, therefore, clean up of these beaches would be essential. The priority for cleanup of beaches would depend on pollution incident and would be determined by the Incident Management Team in consultation with Island representatives.

For access points to beaches and their degree of difficulty, see Appendix 14.

3.11.7 Bird and Wildlife Protection

There are thousands of birds that depend on the resources of Lord Howe Island and its associated island groups (Appendix 15). Fourteen species of sea birds nest on the islands and feed throughout the surrounding waters. The largest number of seabirds are present from September to May each year when 18 additional species visit the Island. Eight of the visiting species are threatened and the area is the only breeding site in the world of one species, the Providence Petrel which arrives en masse in March. These resources are extremely sensitive to marine pollution.

In accordance with the Agriculture and Animal Services Functional Area Supporting Plan and associated policies and procedures, the response will assess agriculture (including fisheries and aquaculture) and animals (livestock, companion and wildlife) at risk and coordinate appropriate response and recovery measures to minimise harm to agriculture and animals and ensure the welfare of animals through:

- rescue, evacuation and emergency care;
- assessment, humane destruction and disposal; and
- treatment and rehabilitation.

Due to limited quantities of fresh water and the ability to dispose of large quantities of oily water on the island, in the event of large number of wildlife requiring cleaning, arrangements will be made to transfer affected wildlife to the mainland for treatment. This may include the use of the containerised oiled wildlife wash facility owned by TfNSW and an AMSA wildlife kit are stored by PANSW (Sydney) at Glebe Island being relocated to the most appropriate location. These can be mobilised by contacting the TfNSW Maritime Incident Duty Officer. Associated veterinary supplies are held by Taronga Park Zoo.

3.11.8 Personnel Deployment to the Island

Where there is a requirement to deploy additional personnel to Lord Howe Island to assist in a response, arrangements for transport will be made with commercial or charter flights depending on availability and seasonal demand.

Where personnel are required to be accommodated on the island accommodation arrangements will be made utilising local accommodation providers or if

insufficient spaces are available the set-up of a field accommodation on the local sporting field.

The LHI Board must be consulted in respect to temporary arrangements, including impacts on fresh water availability, grey and black water disposal and waste management.

Part 4 Administration

4 Administration

4.1 Training

Oil spill response training is carried out by Transport for NSW, the Port Authority of New South Wales and AMSA. Transport for NSW will ensure that training opportunities are made available for RMS personnel and other supporting agencies.

Dates and venues for these and other courses will be promulgated through Transport for NSW, the NSW Technical Working Group and the Regional Emergency Management Committee.

Specific, Island based training can also be provided by Transport for NSW. The LHIB is encouraged to develop an integrated ongoing training program for Island staff in conjunction with all emergency response providers for the Island.

This Plan should be exercised annually.

4.2 Updating of the Plan

This Plan will be exercised and reviewed annually and after any Tier One oil or chemical spill in Lord Howe Island that has required a significant response or a tier 2/3 spill response.

The most recent version of this Plan will be available on the RMS Intranet and Internet sites. Plan holders are encouraged to check the website for the latest version of the Plan.

Update information will be described in the amendments section on page 6 of the Plan.

Appendices

Appendix 1. Contact List

Initial Notification

Contact	24 Hour Contact Number
Lord Howe Island Board LEMO – Kate Dignam	(02) 6563-2066 ext. 19 (02) 6563 2221 a/h
Port Operations Manager (LHI) – Police Officer – Wayne McGrath	(02) 6563-2199
Deputy Port Operations Manager (LHI) – Gower Wilson	(02) 6563 2066 ext. 22 (02) 6563 2135 a/h
Roads and Maritime Services	Via Transport for NSW 24 Hour Pager
Transport for NSW	24 Hour Pager (02) 9962-9074
Principal Manager North Area, Roads and Maritime Services – Sonia McKay	Office: (02) 4962 8517 Mobile: 0417 299 705
Manager Marine Pollution Response, Transport for NSW – Shayne Wilde	Office: (02) 8202 3436 Mobile: 0419 484 446
Port Authority of New South Wales - Yamba Port	Office: (02) 6646 2002 Mobile: 0419 462 002 VHF Maritime Channel 16 Channel 11 Or Via Sydney Ports (02) 9296-4001 (24 Hrs)
Port Authority of New South Wales – Newcastle	(02) 4985 8301
Fire & Rescue NSW	(02) 9469 3111
Australian Maritime Safety Authority - Rescue Coordination Centre	1800 641 792

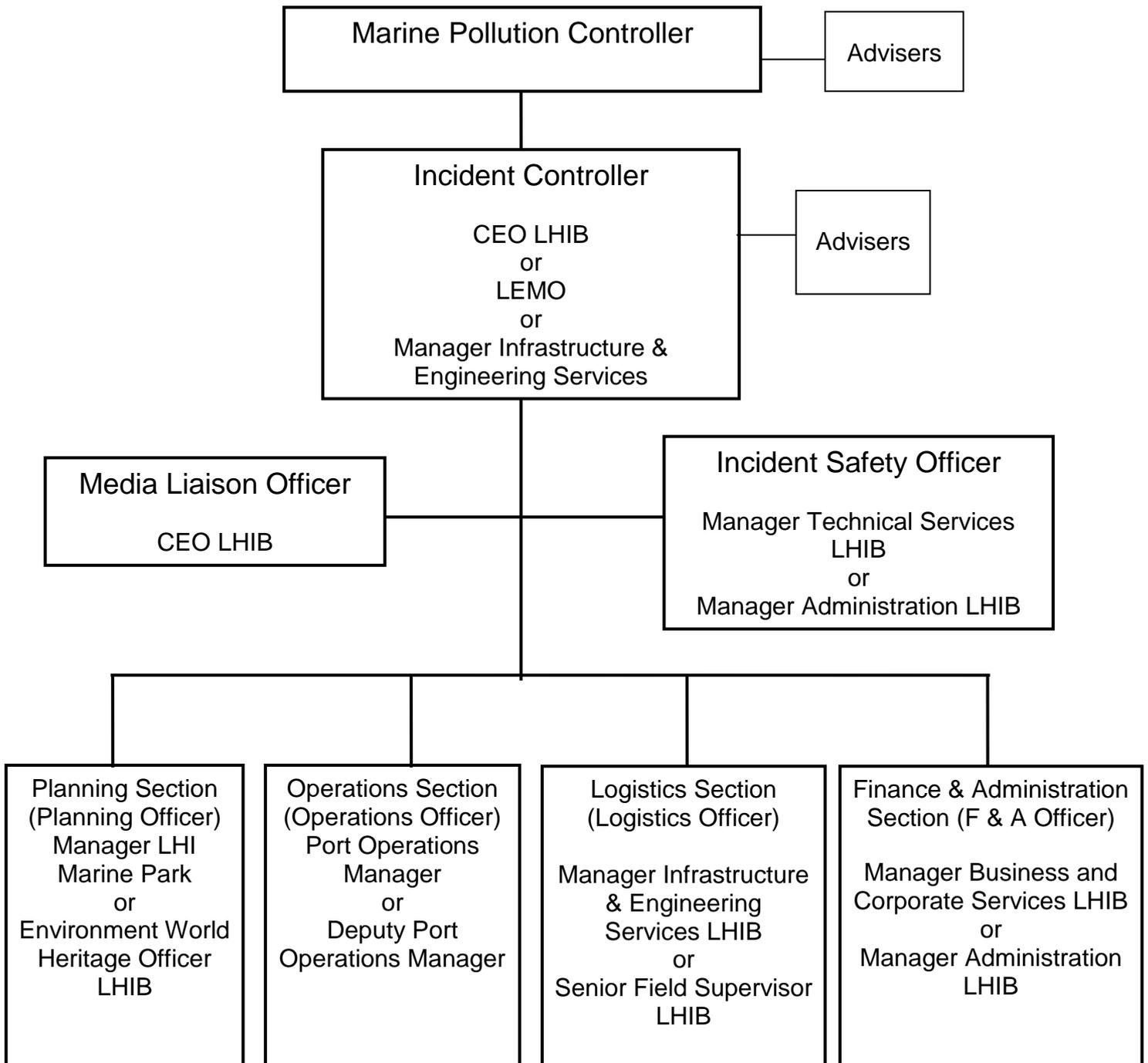
Appendix 2. Chart and Map References

The following chart and map references cover the areas under this Plan:

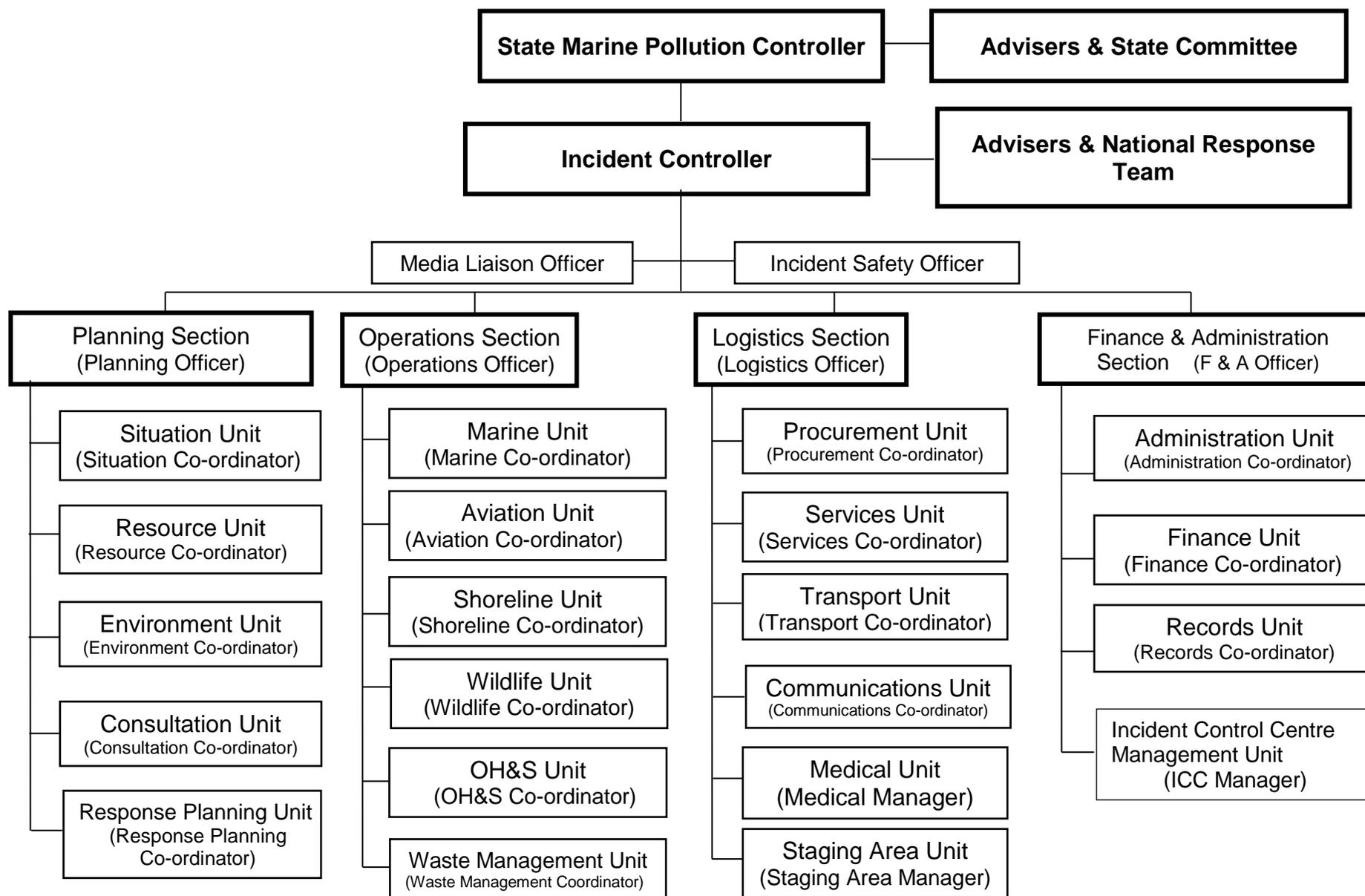
Hydrographic Charts:	AUS 213	Lord Howe Island (1:25,000)
		Lord Howe Island and Balls Pyramid (1:100,000)
		Elizabeth Reef, Middleton Reef (1:50,000)
	AUS 4602	Australia, Lord Howe Island
	NSW 641R	Lord Howe Island (1:2,000) (MSB)
	AUS 610	Approaches to Lord Howe Island
Topographic Map:		Lord Howe Island (1:15,000)

Appendix 3. Incident Management Team Structure

The positions in the table below are filled by available personnel at the time of an initial response. However, people allocated to the positions may be changed as other, or more experienced, personnel become available.



Appendix 4. Incident Control System Response Structure for Major Response



Appendix 5. Pollution Report (POLREP)

A POLREP should be sent to Principal Manager North Area (RMS), and the Manager Marine Pollution Response (TfNSW) once an initial assessment of an incident has been completed.

The Principal Manager North Area (RMS) and the Manager Marine Pollution Response (TfNSW) must also be notified verbally as soon as possible of the incident.

The hardcopy form of the POLREP is shown on the following page. This form can be filled out and faxed to the respective officers and should be followed up by a telephone call to inform that the POLREP fax has been sent.

Pollution Report (POLREP)

Report prepared by:		Contact Details:	
Location:			
		Latitude:	Longitude:
Original Report Source:		Date/Time of Incident:	
		Date/Time Reported:	
Safe Approach Possible:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Injuries:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Description of Injuries:			
Description of Incident:			
Sea/Tide (calm etc./ebb, flood):		Movement & Speed of Pollution:	
Weather:		Wind Speed & Direction:	

POLLUTION INCIDENT:

Type of Substance:			
Alleged Source of Spill:			
Current Situation:	Yes	No	Remarks:
Has discharge stopped?	<input type="checkbox"/>	<input type="checkbox"/>	
Estimated volume (specify units)			
Size of spill (length & width)			
Fauna affected	<input type="checkbox"/>	<input type="checkbox"/>	
Samples taken	<input type="checkbox"/>	<input type="checkbox"/>	
Photographs/video taken	<input type="checkbox"/>	<input type="checkbox"/>	
Records of interview taken	<input type="checkbox"/>	<input type="checkbox"/>	
P&I Club undertaking obtained	<input type="checkbox"/>	<input type="checkbox"/>	
Financial guarantee obtained	<input type="checkbox"/>	<input type="checkbox"/>	
Salvor engaged	<input type="checkbox"/>	<input type="checkbox"/>	
Any additional comments			
Response Action Taken:			

COPY TO: Principal Manager North Area (RMS) and Manager, Marine Pollution Response (TfNSW)

Appendix 6. Situation Report (SITREP)

During a maritime pollution incident SITREPs should be sent regularly from the Incident Control Centre to keep relevant authorities advised of significant developments during the spill response.

The preferred form of the SITREP is shown on the following page.

The last SITREP in a series covering one incident should display the words:
“FINAL SITREP”

ICS2 - SITUATION REPORT - (SITREP)

Incident Name Reference No.

Date Time Sitrep No.

Priority Urgent Immediate Standard

Final Sitrep Yes No

Next Sitrep Date Time

Incident Co-ordinates	Lat.	<input type="text"/>
	Long.	<input type="text"/>

Brief Description of Incident & Impact

Summary Weather Conditions

Summary of Response Actions to Date

Current Strategies

ICS2 - SITUATION REPORT - (SITREP)

Summary of
Resources Available
and Deployed

Expected
Developments

Other Information

SITREP Prepared By:

Name		Role	
------	--	------	--

Phone		Fax		Mobile	
-------	--	-----	--	--------	--

Attachments Number of Pages Attached

Incident Controller		
---------------------	--	--

Name (print)

Approved (Signature)

Distribution

Status Board	IC and IMT	Records	NSWMPC	AMSA RCC	SEOC	DEMO	Email list	

Internal use only – not for distribution

Appendix 7. Risk Assessment Form (OSRICS Form 14)

Part A *Can be used as an overall plan or for a specific activity, copy as required*

Incident Ref No.

Date Time

Prepared By Position

Signature

Incident Description

Site Description

IMPACTED AREAS (select all relevant boxes)

- Ocean Bay River Salt Marsh Mudflats
 Mangroves Shoreline Beach Rocky Cliffs
 Marina

AREA CHARACTERISTICS

- Indigenous Recreational Commercial Residential Government

 Public

WEATHER (Select relevant boxes and provide details)

Rain (Forecasts)

Wind (Direction and Speed)

Waves (Height and Forecasts)

Sun (Forecasts)

Temperature	Hours of Daylight	Tides	High Water	Low Water
<input type="text"/>				

Hospitals

Name	Telephone/ radio	Address	Travel time		Helipad Y/N	Burn ctr Y/N
			Ground	Air		
<input type="text"/>						
<input type="text"/>						

Part B Hazard/Issues *Fill in details and requirements*

HAZARD	Description and Mitigation Measures
Fire/Explosion	
Oil/Chemical	
Dispersants	
Confined or Elevated Areas	
Manual Handling And Use of Machinery	
Boats	
Motor Vehicles	
Electrical Hazards	
Fork Lifts and Cranes	
Aircraft	
Night Operations	
Site Evacuation	
Wildlife	
Fatigue	
Heat Stress	
Noise	
Trenches Excavation	

Part C

Site Description	

Personal Protective Equipment (Select all relevant boxes)

- Head Protection Foot Protection Ear Protection Eye Protection
 Hand Protection Personal Respirators Protective Clothing
 Floatation
 Sunscreen Hat

Other	

Site Facilities Needed (Select all relevant boxes)

- Sanitation First Aid Decontamination Waste Disposal
 Food Areas Accommodation (Remote Areas)

Other Issues

- Induction and Training Requirements Site Hazard Identification and Safety Discussions

Incident Medical Aid Stations

MEDICAL AID STATION	TELEPHONE/RADIO	LOCATION

Transportation (Ambulance)

NAME	TELEPHONE/RADIO	ADDRESS

Medical Emergency Procedures

Possible Hazards

HAZARD		DESCRIPTION AND MITIGATION MEASURES
Fire/Explosion	Entry Permit	Required / not required
	Flammable Gas Detection	Air must be tested before response personnel enter the area.
		Air must be monitored while response personnel are in the area.
	Motors	Motors must have spark arrestors
	Electronic equipment	All electronic equipment used in the area must be intrinsically safe
Oil/Chemical	Hydrogen Sulphide	Air must be tested before response personnel enter the area.
	MSDS Provided	List MSDSs in an attachment
	Appropriate PPE	List PPE (use Part C) or list here
	Gas detection	Air must be tested before response personnel enter the area.
	First Aid requirements	List any specific requirements
Dispersants	Appropriate PPE	List PPE (use Part C) or list here
	MSDS Provided	The dispersant's MSDS must accompany the product and be available to responders using the product.
Confined or Elevated Areas	Specify Access	Responders must not enter a confined space until it has been tested and declared safe for entry.
	Requirements	Areas where falls may occur must be marked off with danger tape
Manual Handling And Use of	Slips, Trips and Strains	Responders must carry out a 'Take 5' safety assessment before undertaking the task
	Slippery Surfaces	Spills must be cleaned up, hand rails installed, appropriate footwear
Machinery	Access, Lifting, Noise.	Where possible use machines to do the lifting Use correct lifting techniques
	Pumps and Hoses	Pumps and hoses must be checked for defects before being used
Boats	PFD's	All personnel working on vessels must wear their PFD at all times.
	Loading & Unloading	
	Operations	Vessels must observe all navigation rules and speed limits
Motor Vehicles	Road Rules	All responders must drive according to the road rules.
	Seat Belts	Seat belts must be worn at all times whilst driving a vehicle.

HAZARD		DESCRIPTION AND MITIGATION MEASURES
	Speed Limits	Speed limits must be observed at all times.
	Fatigue	Responders should not drive when tired, if in doubt ask for transport to be arranged.
Electrical Hazards	Overhead Wires	Plant and Vessel operators must familiarise themselves with the area of operations and keep a watch for overhead wires.
	Power leads	Should be protected or moved so that they do not cross a work area.
	Generators	Should have earth leakage detector on outputs
Fork Lifts and Cranes	Reach and Lifting Limits	Should be displayed on equipment
	Overhead Cables	Plant operators must familiarise themselves with the area of operations and keep a watch for overhead wires.
	Safe working loads	Operators must check the SWL of the crane & any slings etc used to lift loads
Aircraft	Approved Operators	Only approved personnel are allowed on aircraft operations area.
	HUET Training	Personnel flying frequently over water must have a valid HUET certificate.
	Security	Aircraft operations area must be cordoned off or be supervised by an appropriately trained person whilst aircraft operations are in progress
Night Operations		There is to be no night time field operations undertaken unless the activity has the written permission of the Incident Controller.
Drugs/Alcohol	Policy	Response personnel must not report to work under the influence of alcohol or any illegal drugs.
		Any responder who is suspected of being under the influence of illegal drugs or alcohol shall be stood down immediately and escorted from the response area.
Site Evacuation	Safe Egress Requirements	Clearly marked
Wildlife	Wildlife handling	Only trained wildlife responders are to handle oiled or injured wildlife.
		Oiled and injured wildlife must only be handled when the appropriate PPE is being worn.

HAZARD		DESCRIPTION AND MITIGATION MEASURES
		Responders are to report any oiled or injured wildlife to the ICC as soon as practicable.
	Appropriate PPE	List PPE (use Part C) or list here
Fatigue	Management	Team Leaders are to monitor thier teams for fatigue and ensure that their team does not work excessive hours.
		Any responder suffering from fatigue is to cease work immediately and be transported to either a medical facility or their accommodation.
Heat Stress		Responders are to be provided with appropriate shade, food and fresh drinking water.
		Team Leaders are to monitor their teams for signs of heat stress
		Any responder suffering from heat stress is to cease work immediately and be transported to either a medical facility or their accommodation.
Noise		Responders working in noisy environments are to be provided with suitable hearing protection.
		Responders must wear appropriate hearing protection when working in noisy environments
Trenches Excavation	Underground Utilities	Check with Utilities for the location of underground utilities

Appendix 8. Guidelines for the Collection of Oil Samples

The following guidelines are to be adhered to for the taking of oil samples and the transportation of samples:

- 1 Samples, of at least 100 grams, must be taken with the minimum of delay to minimise changes in composition. Every effort should be made to obtain an uncontaminated sample of oil for comparison purposes, particularly if prosecution is envisaged.
- 2 They are to be placed in clean glass jars/bottles with a secure lid and are to be individually sealed with a paper or wax seal.
- 3 Sample bottles are to appropriately numbered and noted with:
 - a. Name of officer taking the sample;
 - b. Time and Date of sample taken;
 - c. Location at which sample was taken;
 - d. Reference to the incident being investigated;
 - e. For those samples taken from a vessel, a signature on the sample bottle from a representative of that vessel; and
 - f. Direction of the movement of the oil, wind and current details.
- 4 Once taken the sample bottles are to be placed in a lockable transportation box, locked and sealed with a lead seal. If more than one officer is involved with the collection of samples, each officer should have a box for the samples that they have taken.
- 5 When the sampling has been completed, the transportation box is to be kept in the possession of the officer that collected the samples until he/she delivers it, or sends it by courier, to the designated laboratory. (TNT Failsafe ☎ 1800 819 561)
- 6 The sealed transportation box is then taken or delivered by courier to the designated laboratory where written confirmation of delivery is obtained.
- 7 The chemist analysing the samples is the only person to break the lead seal on the box.

Designated Laboratory

Leeder Consulting
U 5/18 Redland Drive
MITCHAM VIC 3132

Ph (03) 9874 1988
Mob 0418 344 987
Fax (03) 9874 1933

Appendix 9. Behaviour on Water of Four Representative Petroleum Products

	Gasoline	Kerosene	Diesel	Fuel Oil 650 Sec
Risk of fire or explosion	Yes	Yes	Yes	No
Evaporation 100%	Yes	Yes	No	No
Containable in boom	No	No	Yes	Yes
Skimming feasible	No	No	Yes	Yes
Pumping feasible	No	No	Yes	Yes
Vacuum equipment useable	No	No	Yes	Yes
Containable in fish nets	No	No	Yes	No
Containable in hessian	No	No	Yes	No
Physical removal on shore	No	No	Yes	Yes
Synthetic absorbent	No	No	Yes	Yes
Organic absorbent	No	No	No	No
Dispersant effective	No	No	Yes	Yes
Persistent	No	No	Yes	Yes
Flash Point °C	15	43	70	>70
Specific Gravity at 15°C	0.74	0.78	0.94	0.94
Viscosity cSt at 15°C	0.57	1.5	5.0	0.65
Pour Point °C	<-18	-18	-9	15

Appendix 10. Lord Howe Island Oil Pollution Combat Resources

Item	Quantity
Canadvne GP500 self buoyant boom	150 m
Shoreline boom	40 m
Pacific Weir Skimmer & Pump	1
Flexidam 5,000 ltr Recovery Tanks	2
Anchor Packs (Small) with line & buoys	4
Absorbent Booms (3 metre lengths)	200 m
Absorbent Pads (organic)	300
Polypropylene Mops	250
Polypropylene pillows	30
Absorbent Pads (polypropylene)	400
Equipment for taking samples	2

Contact:

Manager, Technical Services, Lord Howe Island Board

Appendix 11. Equipment Held by the Lord Howe Island Board and Suitable for Foreshore Clean Up

(The use of equipment is to be requested through the Board)

Isuzu Fire Engine - 3000 litres/min. Can also pump from external sources.

1 Caterpillar 963B Traxcavator 4 in 1 bucket – 1.5m³ bucket

1 2WD tractor front end loader - 1/4m³ bucket.

1 Excavator (1m³/20 tonne)

1 x 16 tonne capacity mobile hydraulic crane.

1 x 3 tonne Merlo forklift with 6m telescopic boom.

1 Galion grader 502 Series.

1 Airib 5.3 metres - 60 hp Yamaha. (MPA Vessel)

Portable pumps:

2 Davey Pumps - approx 500 litres/min.

1 Yamaha 4" stainless steel, 200 metre hose (sea water use) - approx 1000 litres/min.

Welding Equipment:

2 portable oxy-acetylene units.

1 portable welder - 175 amps.

Generators:

2 portable generators; 1 x 1000 watts (depot), 1 x 2000 watts (power house).

Tractors:

1 New Holland M100 100hp

.

Trailers:

1 box trailer – 0.5 tonne

1 lighter trailer - 8 tonne (configurable to use).

Trucks:

2 x Hino- 4 tonne

5 x Toyota Hi-Lux 2WD - 1 tonne

3 x Dual Cab Hi-Lux 4WD - 1 tonne

Appendix 12. Vessel Resources

Company	Vessel
Roads & Maritime NSW	MA224 5.5m Rib Powered by 2 x 70hp Yamaha outboards
LHIB/Marine Parks Authority	5.3m Rib – “Shearwater” Powered by 1 x 60hp Yamaha outboard
Marine Parks Authority	7.7m Rib – “Tersiops” Powered by 2 x 175hp Suzuki outboards
Marine Parks Authority	4.2m Rib – Zodiac Powered by 1 x 30hp Honda outboard

Appendix 13. Special Conditions for Dispersant Use

The decision to use dispersants is made by the Incident Controller in consultation with the Environment and Scientific Coordinator.

Often offshore containment is impractical and depending on the resources at risk and the feasibility of a later clean up on land, the two likely approaches will be either to take no action but monitor the movement of the oil or to use dispersants.

The use of dispersants has proven successful but this depends on appropriate weather conditions and on the amenability of the particular oil to dispersant use. The effective use of dispersant will be important in removing a slick from the water surface before birds feeding in the area become coated in oil.

Due to the possibility of toxic effects to birdlife, dispersant use is not recommended within 0.5 nautical miles of any island. Additionally, dispersant use is not recommended in waters less than 5 metres in depth or where water exchange is limited.

As coral reef habitats are also sensitive to oil and dispersed oil, dispersant use is not recommended to combat an oil slick which is above or adjacent to a coral reef or within the Island lagoon. However, when an oil slick is approaching exposed reef, such as Elizabeth and Middleton reefs at low tide, dispersant use may be effective in removing the oil from the surface thereby preventing the reef from being coated in oil.

Only those dispersants that have been tested and approved in accordance with 'National Plan Guidelines for Acceptance' will be considered for use in NSW State waters.

Appendix 14. Condition of Estuary Mouths and Their Suitability for Closure

Creek	Condition	Closure
Soldiers Creek	usually open	mechanical / boom
Cobby's Corner Creek	intermittently open	mechanical / boom
Old Settlement Creek	intermittently open	mechanical / boom

Appendix 15. Location of Access to Beaches on Lord Howe Island and the Degree of Difficulty

Beach Name	Access	Via
North Beach	boat	-
Pebbly Beach	boat	-
Old Settlement Beach	easy	Lagoon Road
Lagoon Beach	easy	Lagoon Road
Johnson's Beach	4WD	Lagoon Road
King's Beach	4WD	Lagoon Road
Salmon Beach	4WD	Southern end Lagoon Road
Blinky Beach	excavator	Lagoon Road
Middle Beach	boat	-
Ned's Beach	easy	Ned's Beach Road

Appendix 16. Communications Equipment

The following is a list of communications equipment located in the Lord Howe Island Board's offices:

- Lord Howe Island Board VHF (all marine), 27 Mhz, UHF (Local)
- Lord Howe Island Board land phone line (02) 6563 2066, fax line (02) 6563 2127
- Rural Fire Brigade, UHF (Local)
- Ambulance vehicle UHF (Local)
- Police VHF, UHF (local), HF, 27 Mhz
- Satellite phone

At the Port Operations Manager' \ Police office / residence:

- Land phone line (02) 6563 2199
- VHF (all marine)
- HF Police band,
- .
- UHF (Local)
- Satellite phone

In the Police Vehicle:

- Portable VHF marine radio
- Portable UHF (local)
- HF Police Band
- Satellite phone

End of Document