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Annex B to the Escape of Hazardous Materials Hazard Plan

SOUTH AUSTRALIAN MARINE SPILL CONTINGENCY ACTION PLAN

(SAMSCAP)

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AUTHORITY

To fulfil the requirements of the Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987, this document shall be known as the South Australian Marine Spill Contingency Action Plan (SAMSCAP).

This plan has been prepared pursuant to the provisions of the Emergency Management Act 2004, the State Emergency Management Plan and the National Plan for Maritime Environmental Emergencies.

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Chair, State Oil Spill Committee

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Contents

Part One - INTRODUCTION

1.1 Purpose

The purpose of this Action Plan is to support the National Plan for Maritime Environmental Emergencies as an instrument of a number of International Conventions and Commonwealth Legislation and the State Emergency Management Plan as an instrument of the *Emergency Management Act 2004*.

This Action Plan has been developed as an Annex to the Escape of Hazardous Materials Hazard Plan developed by SafeWork SA and is intended to identify the role of the Department of Planning, Transport and Infrastructure (DPTI) as the Control Agency for spills of oil or other noxious substances in State Waters, as nominated in the State Emergency Management Plan.

1.2 Description of Hazard

The hazard is large quantities of hazardous material (usually oil, but can be other chemicals or substances) present in State (tidal) waters. This often occurs as a result of a spill from a vessel or rig activities but can occur through natural fissures in the seabed.

Accidental discharges from commercial vessels may involve release of bunker fuel, oil cargo or spills of hazardous and noxious substances. Illegal operational discharges may be oily residues or unidentified hazardous substances that could impact the marine environment, aquaculture interests and the State's coastline including conservation areas.

Offshore exploratory drilling is expected to commence in the Great Australian Bight during 2016. The intended drilling activities increases both the South Australian and West Australian risk profile with respect to possible spills from the rig itself as well as an increase in shipping movements to and from the rig.

1.3 Risks

South Australia has over 5,067 kilometres of coastline, over 30 harbours and 10 privately operated ports catering for overseas shipping. Accidents, groundings, holes in the hull, accidental and purposeful discharges of oil from ships are the most common occurrences of oil spills in Australia.

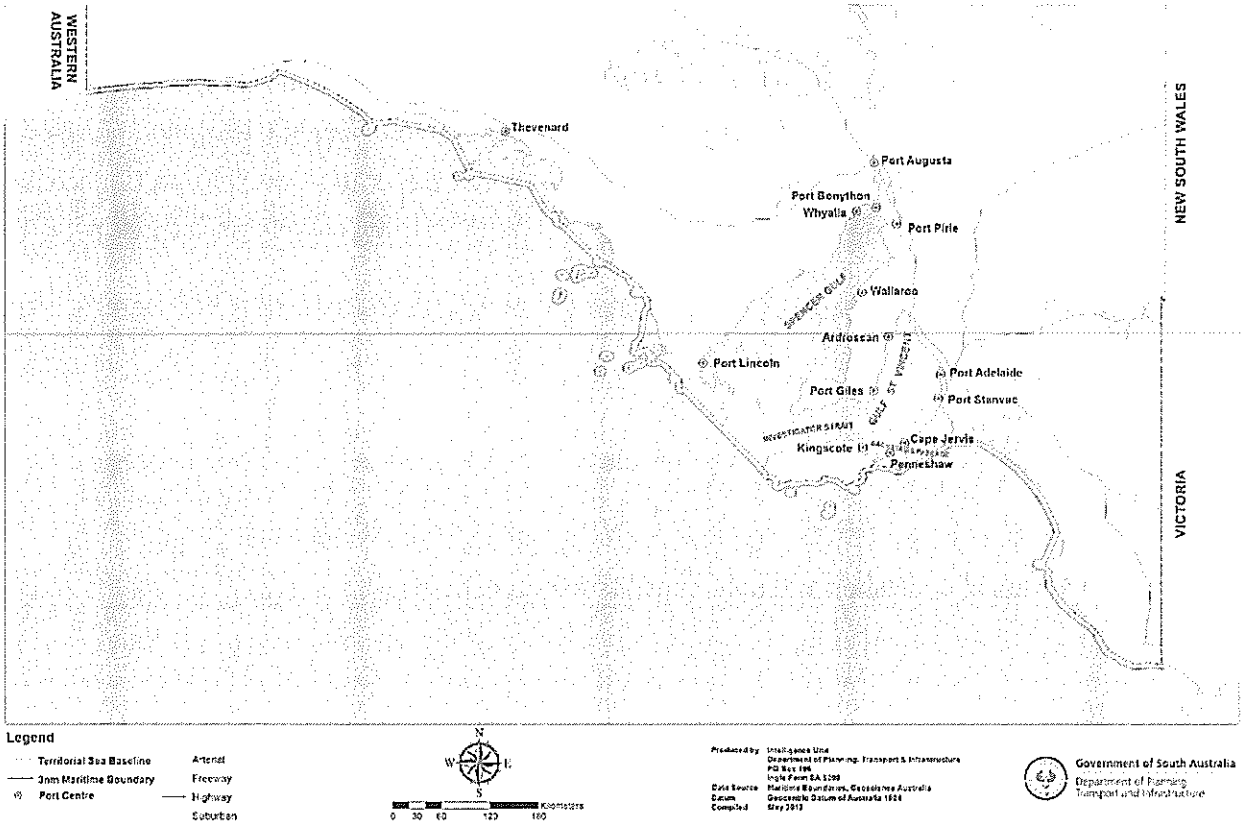
The Commonwealth Government has accepted specific Environment Plans for exploration oil and gas drilling activities to commence in the Great Australian Bight (GAB) in 2016. There are four licence holders entitled to install rigs. If all four install rigs, it will significantly increase the risk to South Australia not only through the presence of oil rigs, but also in the increase in marine traffic this will cause.

The geographical coastal area covered by SAMSCAP is shown in Figure 1.2. Specifically, it covers spill response in the following three areas:

- All estuarine waters subject to the ebb and flow of the tide;
- Coastal and enclosed waters from the baseline to the South Australian three nautical mile limit and all foreshore areas within this zone (note the 3nM limit is defined under the Commonwealth Seas and Submerged Lands Act 1973); and
- Incidents that occur beyond the South Australian waters three nautical mile limit where the spilled substances is likely to impact the South Australian shoreline or enter State waters

Further risk information regarding the South Australian Coastline can be found in Appendix 2.

Figure 3.2 Coastal Waters Covered by SAMSCAP



1.4 Scope

It is not intended to provide for responsibilities and actions to apply to a *Leakage* or *Spillage* of *Hazardous Material* in territorial waters seaward of coastal waters as the National Plan for Maritime Environmental Emergencies (the National Plan) and plans endorsed by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) apply in these areas.
However, this plan may be activated in support of the National Plan to provide expertise, local knowledge, advice and resources to those agencies responding under the National Plan or offshore oil and gas exploration environmental or oil pollution response plans.

The legislative powers of the Minister for Transport and Infrastructure under the *Protection of Marine Waters (Prevention of Pollution from Ships) Act* do not extend to inland waters and hence these waterways are covered by either the Metropolitan Fire Service or the Country Fire Service and the Department of Planning, Transport and Infrastructure (DPTI) will provide assistance as a supporting agency.

1.5 Aim

The aim of SAMSCAP is to set out the State arrangements for preparing for, responding to and recovering from spills of oil or noxious and hazardous substances into coastal waters (generally within 3 nautical miles of coastlines and onto beaches and foreshores).

1.6 Objectives

The objectives of SAMSCAP are to:

1.5.1 Describe the responsibilities and procedures for the prevention of, preparation for, response to and recovery from marine pollution events.

1.5.2 Establish a basis for co-ordination between State Government agencies, non government organisations, industry members and Commonwealth agencies.

1.5.3 Integrate the State arrangements with the National Plan, Port Marine Pollution Contingency Plans, Industry Plans, offshore exploration licence title holder response plans, other Jurisdictional plans and the State Emergency Management Plan.

1.7 Priorities

The primary priority for DPTI as the Control Agency in all pollution incident responses is the health, safety and welfare of the community, response personnel and other marine users and will be considered above all other priorities.

Once health and safety is assured, response activities will focus on the protection of the environment. Other protection priorities will be considered dependant on the location of the incident, prevailing conditions, reality of success and availability of resources. The following list provides examples of protection priorities within State waters:

1. Health and Safety of all people including responders and members of the public;
2. Marine, estuarine and shoreline habitat;
3. Rare and endangered plant and animal species
4. Aboriginal and other heritage and cultural resources;
5. Commercial and recreational fisheries resources;
6. Private and public property;
7. Visual and recreational amenity.

1.8 Review

DPTI will undertake a general review of SAMSCAP every twelve months and provide recommended amendments to the South Australian Marine Spill Management Committee, to the State Mitigation Advisory Group (SMAG) and to other participating organisations for assurance.

Part Two – PREVENTION AND MITIGATION

2.1 Legal Framework

2.1.1 National Legislation

The key Commonwealth legislation relevant to marine pollution is the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* and its regulations.

This legislation implements the *International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)* and applies to all waters within Australia's Exclusive Economic Zone.

2.1.2 State Legislation

The key State legislation relevant to marine pollution is the Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987, supported by the Harbors and Navigation Act 1993.

Table 2.1 lists the State and Commonwealth legislation that relates to marine pollution response, together with the relevant international conventions. The table also refers to the main provisions of each.

Table 2.1 List of State and Commonwealth Legislation Relevant to Marine Pollution Response

Act or Regulation	Agency	Relevance to Marine Pollution Response
South Australian Legislation		
Emergency Management Act 2004	SA Police	Establishes emergency management system in South Australia and the State Emergency Management Plan.
Environment Protection Act 1993	EPA	The EPA may set licence conditions on facilities to prepare and maintain a emergency Response Plan approved by the EPA. e.g. Ports and facilities to prepare and maintain and Emergency Plan and an Emergency Operations Team.
Environment Protection (Water Quality) Policy 2016	EPA	Defines environmental harm, environmental values, the general environmental duty and offence of polluting waters
Harbors and Navigation Act 1993	DPTI	Specifies requirements of a Port Operating Agreement including the need for a Port Operator to have contingency plans (and resources) to respond to an emergency.
Marine Safety (Domestic Commercial Vessel) National Law (Application) Act 2013	AMSA	Requires owners of commercial vessels to ensure safety of all personnel and have safety management systems in place, including business continuity and emergency management plans.
National Parks and Wildlife Act 1972 and National Parks and Wildlife (Wildlife) Regulations 2001	DEWNR	Gives DEWNR responsibility for dealing with injured (oiled) wildlife.
Petroleum (Submerged Lands) Act 1982	DSD	Refer to Commonwealth_*Offshore Petroleum and Greenhouse Gas Storage Act 2006.*
Work Health and Safety Act 2012	Safework SA	Establishes safe work practices and places an obligation on employers to ensure workplace safety.

Table 2.1 Continued - List of State and Commonwealth Legislation Relevant to Marine Pollution Response

Act or Regulation	Agency	Relevance to Marine Pollution Response
South Australian Legislation		
Protection of Marine Waters (Protection of Pollution from Ships) Act 1987 and Regulations	DPTI	Mirrors Commonwealth *Protection of the Sea (Prevention of Pollution by Ships) Act 1983* and amendments. Implements Annex I; II; III; and V of MARPOL.
		Prohibits discharge of oil, oily mixtures and other materials.
		Defines illegal discharge of oil to the sea and allows for prosecution of offending vessels.
		Requires mandatory reporting of marine pollution incidents – Part 4.
		Trading vessels (i.e. tankers) must have a Shipboard Oil Pollution Emergency Plan (SOPEP)
		Trading vessels (i.e. tankers) must have an Oil Record Book
		Vessel Masters must report all spills to a prescribed officer (e.g.Port/Habourmaster)
		All discharges of oil into the sea (or to land if it is likely to enter the sea) must be reported to the Minister (Transport and Infrastructure)
		Cleanup and other costs and damages are recovered from the Responsible Party.
		Responders acting in accordance with SAMSCAP are free of liabilities.

Table 2.1 Continued - List of State and Commonwealth Legislation Relevant to Marine Pollution Response

Act or Regulation	Agency	Relevance to Marine Pollution Response
South Australian Legislation		
Port Rules – made under provisions of the *Stony Point (Liquids Project) Ratification Act 1981*	DPTI	The Port Rules require Vessel Master/Person in Charge of the vessel to report marine accidents (inc. spills) to the Harbourmaster.
		All cargo handling accidents (including spills) from vessels to be reported to the Harbourmaster by Santos Marine Supervisor or deputy.
		Santos to prepare and maintain an Emergency Plan.
		Santos to maintain an Emergency Operations Team.
		Immediate response requirements defined.
		Port Rules to be developed by the State.

Table 2.1 Continued - List of State and Commonwealth Legislation Relevant to Marine Pollution Response

Act or Regulation	Agency	Relevance to Marine Pollution Response
Commonwealth Legislation		
Australian Maritime Safety Authority Act 1990	AMSA	Sets out functions of the Australian Maritime Safety Authority, including "the combating of pollution in the marine environment".
Marine Safety (Domestic Commercial Vessel) National Law Act 2012	AMSA	Requires vessels to ensure safety of all personnel and have safety management systems including business continuity and emergency management plans.
Navigation Act 2012 and *Navigation Act (Protection of the Sea) Amendment Act, 1983*	AMSA	Implements the requirements of MARPOL 73/78 for the construction of vessels
Protection of the Sea (Prevention of Pollution by Ships) Act 1983	AMSA	This Act and subsequent Amendment Act implements the provisions of MARPOL 73/78.
		This Act prohibits the discharge of oil or oily mixtures within coastal waters and sets penalties for breaches.
		It requires the reporting of all oil pollution incidents and sets penalties for failure to comply.
Protection of the Sea (Civil Liability) Act 1981	AMSA	This Act and amendments gives effect to the *International Convention on Civil Liability for Oil Pollution Damage 1969* (the Civil Liability Convention [CLC]) and 1992 amendments.
		The Act requires all ships carrying over 2,000t of oil in bulk as cargo to carry adequate insurance to cover liabilities that may occur as a result of oil pollution incidents.
		Oil is defined as "*persistent oils such as crude oil, fuel oil, heavy diesel oil, lubricating oil and whale oil (CLC Article 1(5))*".

Table 2.1 Continued – List of State and Commonwealth Legislation Relevant to Marine Pollution Response

Act or Regulation	Agency	Relevance to Marine Pollution Response
Commonwealth Legislation		
Protection of the Sea (Oil Pollution Compensation Fund) Act 1993 *Protection of the Sea (Oil Pollution Compensation Fund-Customs) Act 1993* *Protection of the Sea (Oil Pollution Compensation Fund-Excise) Act 1993* *Protection of the Sea (Oil Pollution Compensation Fund-General) Act 1993*	AMSA	These Acts implement the "Fund Convention".- an international convention that gives access to funds to respond to spills.
Offshore Petroleum and Greenhouse Gas Storage Act 2006 and	DRET/ NOPSEMA	Any person or Agency suffering damage, as a consequence of an oil pollution incident from ships, can claim compensation from the Fund if unable to obtain full compensation under the provisions of the CLC.
Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Statutory Rules 1999 No. 228 as amended)		Establishes and provides for the maintenance of an oil spill contingency plan. Deals with reporting "recordable events" which may include oil or hazardous and noxious substances spills.
Environment Protection and Biodiversity Conservation (EPBC) Act 1999	DotE	Aims to protect natural resources and biodiversity. Requires assessment of any act likely to cause significant effects. Response actions exempted provided they are in accordance with National Plan.

Table 2.1 Continued - List of State and Commonwealth Legislation Relevant to Marine Pollution Response

Act or Regulation	Agency	Relevance to Marine Pollution Response
Commonwealth Legislation		
Environment Protection (Sea Dumping) Act 1981	AMSA	This Act implements the 1972 London Convention.
		The Act prohibits the dumping of any waste listed in Annex I of the Convention and permits wastes in Annex II only under licence.
		The Act does not apply to Australian naval vessels, aircraft or platforms.
Protection of the Sea (Powers of Intervention) Act 1981	AMSA	This Act implements the 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties.
		Empowers the Australian government to take actions necessary to protect the coastline from damage arising from a pollution incident or potential incident, on the high seas.
		This action may include, removal of cargo or fuel from a stricken vessel, taking charge of, or sinking the vessel.
		The Act and Convention cover oil and other substances deemed hazardous.

2.1.3 Inter-Governmental Agreements

In May 2002 the South Australian Government and all other State/Northern Territory Governments signed an InterGovernmental Agreement (IGA) with the Commonwealth Government to implement recommendations from a review of the National Plan for Maritime Environmental Emergencies (the National Plan). The intent of the IGA was to establish clear administrative and funding arrangements under the National Plan for responding to oil or hazardous and noxious substances pollution in the marine environment.

The National Plan IGA defines the roles and responsibilities of all parties to the National Plan in maintaining a national approach to preparedness and response to marine pollution. The Agreement also establishes the committee structure of the National Plan to maintain a cooperative and consultative administrative system to ensure that all parties are able to meet their obligations under the IGA.

Responsibilities placed upon the South Australian Government under the IGA include:

- Coordinating the local administration and operation of the National Plan, in accordance with the National Plan Administrative Arrangements;
- Administration and operation of the National Plan in South Australia, including provision of support to the National Plan Strategic Coordination Committee and National Plan Industry Advisory Committee;
- Developing and implementing state contingency plans for combating marine pollution under the National Plan (e.g. SAMSCAP & local port plans);
- Advising and supporting the Control Agency during the response to an inland waters marine spill of oil or hazardous and noxious substances;
- Advising AMSA in relation to capital equipment, maintenance and training requirements for that State/Northern Territory on an annual basis;
- Ensuring all oil or hazardous and noxious substances pollution incidents and reports of oil spill sightings whether confirmed or unconfirmed are reported to AMSA.

2.2 Administrative Framework

2.2.1 National Governance

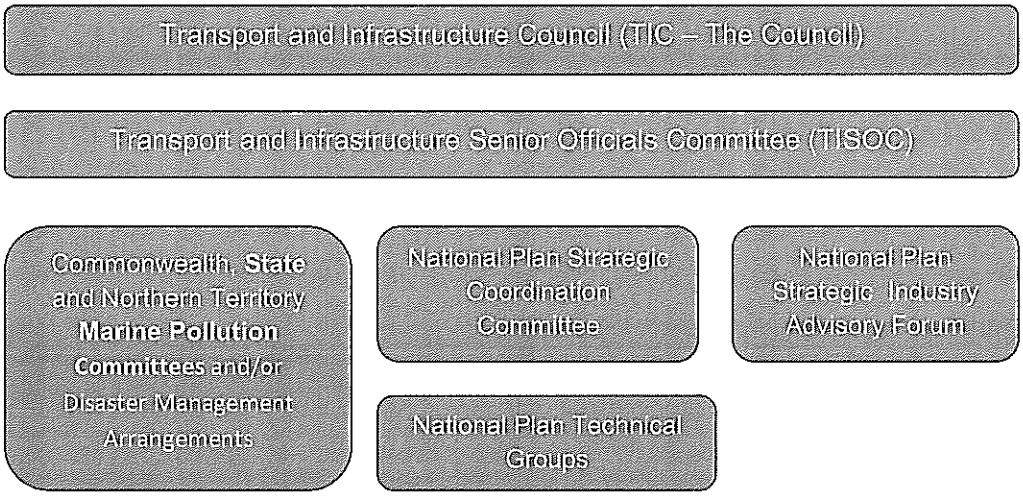
The National Plan is a cooperative arrangement between the Commonwealth, States, the Northern Territory and industry and is administered by AMSA.

The organisation of day to day (preparedness) management of the National Plan is set out in the National Plan. Each state has prepared its own State Plan which sets out each State's/Northern Territory's arrangements (in SA this is SAMSCAP).

The National Plan is managed as follows:

- Transport and Infrastructure Council, the Ministerial body responsible for the National Plan;
- National Plan Strategic Coordination Committee (NPSCC) which provides advice to SCOTI on the policy issues and the National Plan funding;
- National Plan Industry Advisory Committee supports the NPSCC by considering the overall operational aspects of the National Plan.

Figure 2.2 – National Plan governance structure



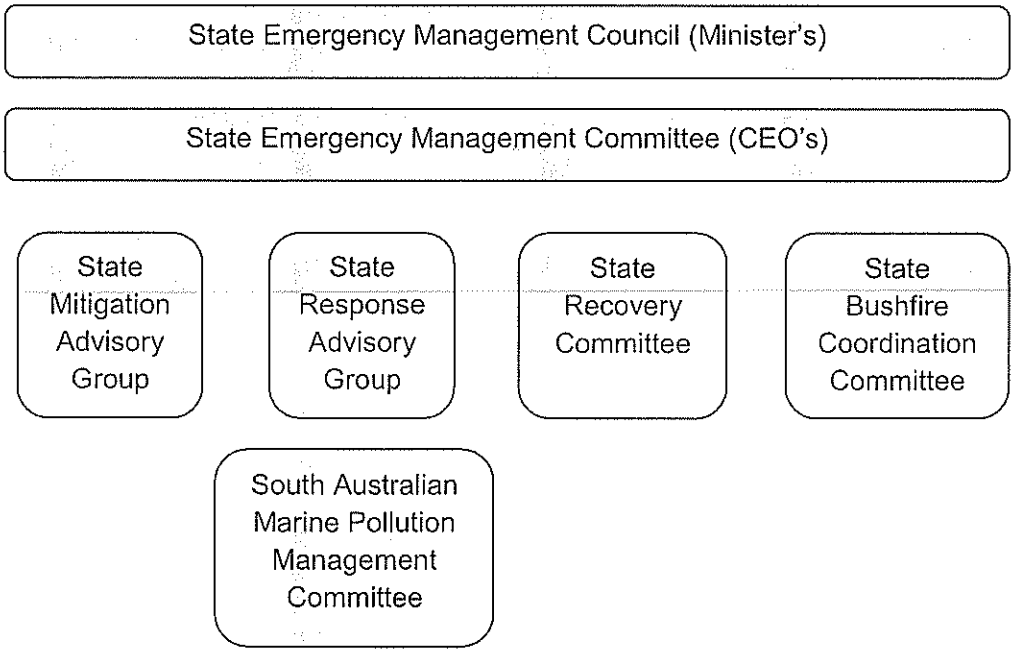
2.2.2 State Governance

The State Emergency Management Plan is written pursuant to the *State Emergency Management Act*. This Plan outlines responsibilities, authorities and the mechanisms to prevent, or if they occur, to manage and recover from major incidents and disasters within South Australia.

The State Emergency Management Plan is managed as follows:

- The Emergency Management Council, the Ministerial Body responsible for the SEMP;
- The State Emergency Management Committee (SEMC) ensures the plan is adequate and provides overarching strategic coordination of emergency management arrangements across the State.
- Several advisory groups and committees support SEMC.

Fig 2.3 State Plan governance structure



2.2.3 South Australian State Marine Pollution Management Committee

The South Australian Marine Pollution Management Committee oversees the management of pollution response preparedness and consists of representatives from State, Local Government and non government agencies and industry members.

The South Australian Marine Pollution Management Committee is a sub-committee of the State Response Advisory Group (SRAG). The Committee is chaired by the SMPC (or nominee) within DPTI.

Membership of the Committee is shown in Table 2.2.

The Committee sits twice yearly although special meetings may be called by the State Chair at any time. Members may request the State Chair to call a special sitting of the Committee. The SMPC may call a meeting of the committee to assist in a response.

Table 2.2 Membership of the South Australian Marine Pollution Management Committee

Position/Member	Department
Chair and State Marine Pollution Controller (SMPC)	DPTI
Deputy Chair and Deputy SMPC	DPTI
DPTI response members as needed	DPTI
Environmental and Scientific Coordinators	EPA
Nominated IMT person (Wildlife)	DEWNR
SA Water Police / Emergency Management / Critical Infrastructure	SAPOL
Volunteer Marine Rescue Coordinator	SES x 2
Fisheries and Aquaculture	PIRSA x 2
National Plan representative	AMSA
Fire Services (chemical and inland water response)	MFS & CFS
Ports representative	Flinders Ports
Industry representatives	Santos BP Shell

2.2.4 Roles and Responsibilities

The State Emergency Management Plan (SEMP) outlines the following roles and responsibilities:

2.2.5 Hazard Leader

A Hazard Leader is responsible for ensuring that all aspects of the hazard (prevention, planning, response and recovery) are addressed. The Hazard Leader for hazardous materials in South Australia is SafeWork SA. SAMSCAP is an annex to the Hazard Plan developed by the Hazard Leader.

2.2.6 Coordinating Agency

The Coordinating agency is the South Australia Police (SAPOL). They ensure that the Control Agency effectively responds to and manages an emergency incident and supporting agencies provide an appropriate level of support.

2.2.7 Control Agency

A Control Agency has responsibility to take control of the response to an emergency. The State Emergency Management Plan (SEMP) outlines who the Control Agency is for specific emergencies.

The Department of Planning, Transport and Infrastructure (DPTI) has been nominated as the Control Agency for Marine Spills in State Waters. The Country Fire Service (CFS) and Metropolitan Fire Service (MFS) are the Control Agency for marine spills in inland waters.

DPTI will support the Control Agency for inland waters as a participating and support agency.

2.3 Delegations

2.3.1 State Marine Pollution Controller

The principal office holder of SAMSCAP, for the purposes of the National Plan, is the State Marine Pollution Controller who has been delegated the Minister's powers under the *Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987.*

The person appointed to the position of State Marine Pollution Controller (SMPC) must have the delegated authority from the *Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987* to initiate and maintain a response, is authorised to commit DPTI resources to a response and has been trained to lead a marine response.

These delegations currently reside with the Chief Operating Officer and the Section Manager, Marine and Vehicle Operations. The State Marine Pollution Controller may also hold delegations and authorisations from the Harbors and Navigation Act 1993.

Upon activation of this plan, the SMPC will appoint a suitably trained incident controller who will be responsible for putting together an incident management team and implementing the response actions outlined in this plan.

2.3.2 Incident Controller

The incident controller is directly responsible for implementing this plan and directing the response effort. They may have various authorisations and delegations under the *Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987* and *Harbours and Navigation Act* 1993 and should be trained in Incident Control and Incident Management Team.

They should appoint an Incident Management Team and establish a command structure. They must ensure that the following issues are considered within the response:

- Use of dispersants
- Resourcing (obtaining suitable personnel from within SA EM arrangements, the national plan or spontaneous volunteers)
- The use of air observers
- The deployment of boom and other oil spill response equipment
- Working with other stakeholders – including salvors. Salvage operations will be competing for the same resources, so the incident controller needs to ensure that resources are allocated to the greater need.
- Integration with other incident management teams that may be deployed during a large event (e.g. with industry or other jurisdictions in a unified command)
- Net environmental benefit analysis (NEBA) – the incident controller should always consider whether an action will deliver the best environmental benefit. Sometimes it is better for the environment to allow the oil to enter the waterways and be cleared naturally.

2.3.3 Port Manager

The Manager of a Port is responsible for ensuring that the Port has a marine spill response plan, trained first responders and first response equipment. These Managers are delegated under the *Protection of Marine Waters Act (Prevention of Pollution from Ships) Act 1987*.

2.3.4 Response Team Members

Response team members may or may not hold delegations or authorisations under either the *Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987* and *Harbours and Navigation Act 1993* but will work under the direction of a team leader who does hold the appropriate delegations/authorisations and has been trained in marine spill response. Each response member is responsible for their safety and that of their team members and should be aware of their obligations under the *Work, Health and Safety Act 2012.*

Part Three - PREPAREDNESS

3.1 Integration With Other Plans

3.1.1 National Plan for Maritime Environmental Emergencies

SAMSCAP supports and is supported by the National Plan. This plan provides for the coordination of assistance from other national and international organisations, the provision of specialised response equipment and financial assistance where the polluter cannot be identified.

3.1.2 South Australian State Emergency Management Plan

The State Emergency Management Plan (SEMP) outlines responsibilities, authorities and procedures to prevent, manage, and recover from, emergencies and disasters within South Australia.

A marine spill is considered an emergency under the SEMP. Depending on the size of the spill, both this plan (SAMSCAP) and the SEMP can be activated in order to facilitate cooperation with, and gain access to assistance from, other South Australian Government agencies.

Operational procedures and administrative arrangements linking the functional government authorities responsible for implementation of emergency responses are detailed in the State Emergency Management Plan.

3.1.3 SA Wildlife Response Plan for Oil Spills

The South Australian Response Plan for Oiled Wildlife has been developed and is administered by the Department of Environment, Water and Natural Resources (DEWNR). In the event of an impact of an oil or hazardous and noxious substances spill in State waters, DEWNR officers will be mobilised to manage this component of the response.

3.1.4 Environmental & Scientific Advice for Oil Spills

Appropriate Environmental and Scientific advice is essential to make informed and effective decisions regarding the establishment of response objectives and the selection of the most appropriate response strategy and tactics. This advice should be incorporated at all levels of the response.

Such advice and assistance is provided through the Environmental and Scientific Coordinator(s)(ESC). In South Australia the ESC function is located within the Environment Protection Authority (EPA). In the event of an impact of an oil or hazardous and noxious substances spill in State waters, the ESC(s) will be mobilised to coordinate the environmental & scientific advice as required by the Incident Controller.

3.1.5 Port and Facility Contingency Plans

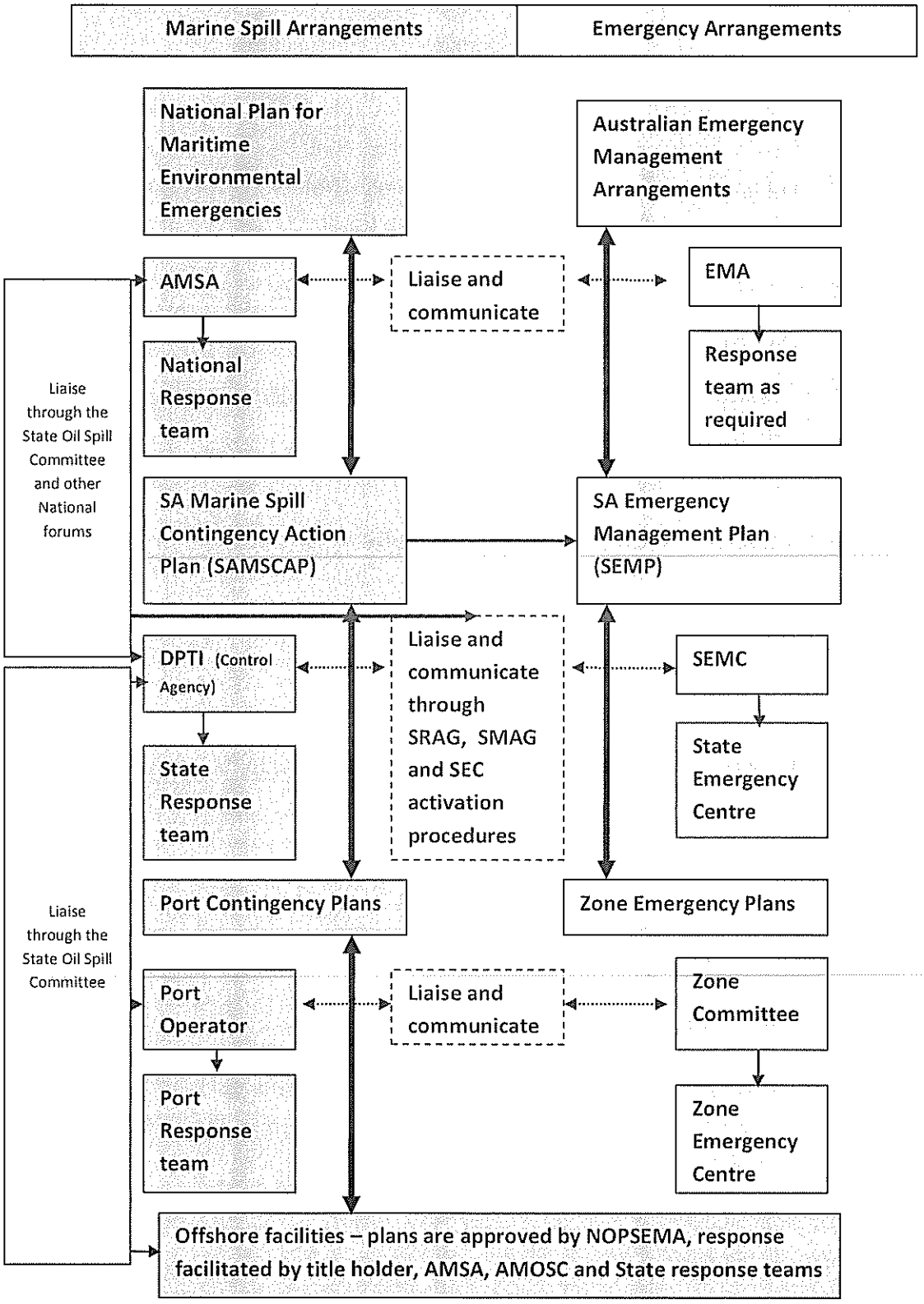
Port and facility contingency plans are important components of SAMSCAP. The procedures and support mechanisms under SAMSCAP may be initiated to provide additional assistance not available locally when a marine pollution incident exceeds the capacity of the port or facility operator to effectively contain and/or clean up the spill.

3.1.6 Offshore Oil Pollution Emergency Plans

There are four title holders who have Commonwealth Government approval to drill for oil and gas in the Great Australian Bight. Under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* title holders are required to produce an Oil Pollution Emergency Plan (OPEP). Where the projected impacts reach SA State waters, this plan works with the industry plans to provide an efficient response to the spill.

A point to note is the concept of unified command. Where possible, DPTI will appoint a liaison to the title holder's Incident Management Team (IMT) so that situational awareness for SA is maintained from the outset and the IMT is aware of what actions SA may take once the spill hits SA waters.

Figure 3.1 Integration of Marine Spill and Emergency Response



3.2 Border Agreements

If a spill occurs close to State borders, the Control Agency will be decided through consultation between the relevant State Marine Pollution Controllers, and will be the agency with the better ability to mount a credible, sustainable response in the shortest time.

In Commonwealth waters AMSA will assume the Control Agency role for marine spills. AMSA may request, through the State Marine Pollution Controller, that SA assume the Control Agency role, even though the spill occurred in Commonwealth Waters. Such cases may include situations when:

- Oil is likely to impact on SA waters or the SA shoreline
- AMSA personnel are in transit to the scene
- A shipping issue (e.g. salvage, prevention of further spills, fire or other emergency) requires the commitment of resources of AMSA personnel.

3.3 Arrangement for assistance from other jurisdictions

Requests for assistance from Interstate, Commonwealth or International resources are to be coordinated through AMSA and in consultation with the State Emergency Management Committee. The Commonwealth, States and Territories have signed and Inter-Governmental Agreement that commits them to mutual assistance to be coordinated through AMSA.

The National Response Team (NRT) can provide trained, experienced personnel from around the nation to support a response. This can be accessed through AMSA by the request of the State Marine Pollution Controller and/or the appointed Incident Controller. Members of the South Australian State Response Team (SRT) may also be appointed as members of the NRT by the State Marine Pollution Controller.

If additional resources are required, e.g. defence support, the State Marine Pollution Controller should seek to do so through standing arrangements as outlined in the State Emergency Management Plan (SEMP).

Should any of these resources be called upon the SMPC should ensure that the State Coordinator is aware of the arrangements.

3.6 Training and Capability Development

The Control Agency and support organisations are expected to provide training opportunities for its staff with the objective of ensuring an adequate number of trained personnel in the various aspects of spill response.

Regular training courses for both spill management and to field response personnel are routinely provided by DPTI and AMSA, utilising combinations of Commonwealth, State, and industry spill response resources. Port and Marina Operators are responsible for ensuing that they have adequately trained staff to meet their obligations as "First Responders" within their area of control.

Wherever possible, training places should be made available to other support organisations to maintain access to adequately trained staff and to facilitate the ongoing cooperation and coordination that would be expected in the event of a spill incident. Please note that National Response Team (NRT) members are provided free training by AMSA, with the agency paying associated travel and accommodation costs. Supporting agencies wishing to join AMSA training will be required to pay for training and associated costs.

DPTI, through the South Australian Marine Pollution Management Committee (SAMPMC), will coordinate a field marine spill exercise once every three years and a desktop exercise yearly. All organisations identified within SAMSCAP will be encouraged to participate.

Support and response agencies (such as Ports and Marinas) not involved in an exercise conducted by the SAMPMC should conduct their own exercises on a regular basis to test their individual contingency plans and the adequacy of staff training. Tier One facilities are responsible for ensuring that basic training is provided to their response staff.

Part Four - RESPONSE

4.1 Notification

Reports of marine pollution events may come from industry, vessel operators or members of the public and may be made to:

- Flinders Ports Signal Station at Port Adelaide ((08) 8248 3505 (24/7 number) or call on radio channel 12 – monitored 24/7);
- EPA Pollution hotline ((08) 8204 2004 or 1800 623 445 (non-metropolitan callers);
- The AMSA Rescue Coordination Centre (1800 641 792 – 24 hours).
- SA Police on 000, local police station or Police Communications Call Centre on 131 444

However the observer chooses to report the spill, all reports should then be forwarded to the Signal Station on (08) 8248 3505. The Signal Station will record and forward all reports to the DPTI Duty Officer who will make appropriate enquires and/or attend the reported location to validate the spill and provide a report to the State Marine Pollution Controller and/or one of the nominated Incident Controllers.

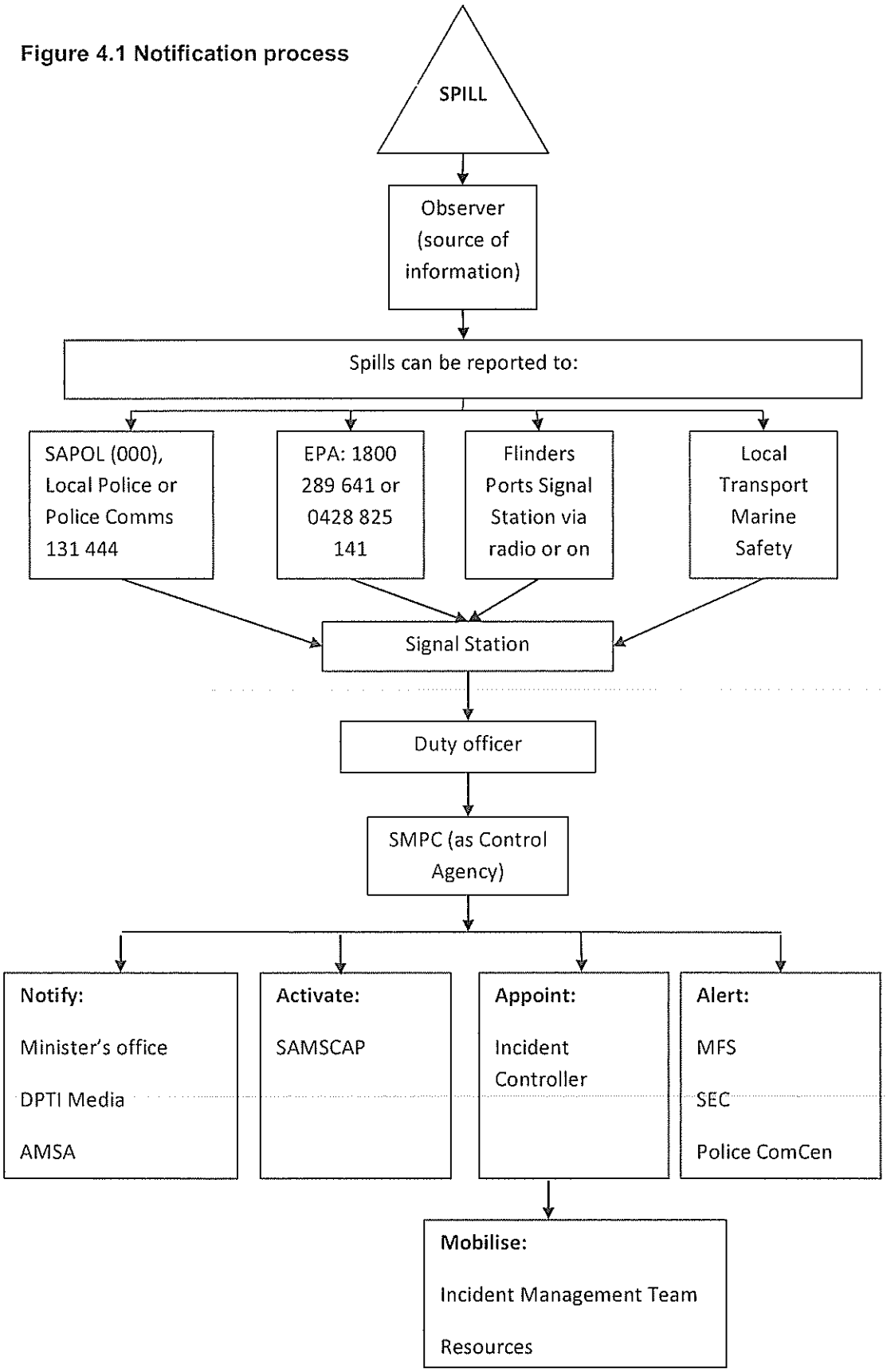
Depending on the severity of the incident, the State Marine Pollution Controller (SMPC), upon receiving the report, may activate this plan, mobilise the Incident Management Team, notify the Minister and alert the MFS, SEC, Police Communications and AMSA. If it is a small incident, the SMPC may choose to form a response team from within DPTI and report the incident as a minor response at the next State Marine Spill Committee.

Where the originator of the spill is known they may initiate a response but must report the spill to the signal station **within 2 hours** of the spill becoming known.

Where the spill is beyond the capability of the originator or first tier response agency to manage, this should be reported to the Signal Station who will pass the information to the Duty Officer who will refer the report to the State Marine Pollution Controller who may:

- Activate SAMSCAP and appoint an Incident Controller
- Notify AMSA
- Call an extraordinary meeting of the State Marine Spill Committee
- Ask the State Coordinator or the Deputy Commissioner for the State Emergency Centre to be opened

Figure 4.1 Notification process



4.1.2 Triggers for activation

A response to a marine spill may be triggered by:

- Spill size
- Spill cause (e.g.holing or grounding of a vessel)
- Potential for economic or environmental harm
- Complexity of response

Anyone who sights what they believe to be a spill can report the spill (see notification) which is then recorded by the signal station and the information forwarded to the on-call duty officer. The duty officer can contact the original reporter, attend the site themselves, arrange for someone else to attend the site or can, based on the information they have received, recommend that an air observer is dispatched and/or an Incident Management Team immediately be set up.

The recommendation for determining the level of the spill and response is based on how much oil or noxious substance is spilt and what resources are required to combat the spill. See Section 4.2 and table 4.10 for levels of response, possible triggers and resources deployed.

Table 4.10

Possible "triggers" for determining Response Level:												
Indicative spill size	Level One (0-10 tonnes)				Level Two (10-1,000 tonnes)				Level 3 (greater than 1,000 tonnes)			
Potential for economic or environmental harm	Low (not significant)				Moderate (Local or Short term significance)				High (regional or long term significance)			
Indicative Resources Mobilised												
Local Facility/Port												
Regional												
State												
National (AMOSC)												
National (AMSA)												
International												

Mobilised or likely to be mobilised

Possibly or partially mobilised

4.2 Levels of Response (Tiers)

Under the National Plan a marine spill response in Australia is based on a number of levels, or "Tiers" (See Table 4.1). These are defined according to:

- The scale of the response;
- The level of environmental or public risk i.e. the urgency of the response;
- Agency assuming the role of Control Agency;
- Number of agencies called upon to respond;
- Amount of resources mobilised.
- Complexity of response

These in turn will depend on the:

- Type of oil or other substance spilled;
- Location of the spill, its trajectory and resources at risk;
- Volume of spill.

The response levels for oil and for hazardous and noxious substances spills are indicated in the National Plan and in the table below Table 4.1 and Table 4.2.

The decision on whether a response is a Tier 2 or a Tier 3 response is decided by the State Marine Pollution Controller or delegate which may or may not be undertaken in consultation with the originator of the spill, AMSA or the State Coordinator.

Table 4.1 Description of Oil Spill Response Tiers

Tier	Description
Tier 1	Spills of <10tonnes[1] Local Response. A small spill requiring a local response. A spill response undertaken by a Port or facility operator or other Responsible Party. These are generally small spills or spills of non-persistent oils which do not threaten to impact shorelines or other sensitive resources. The Responsible Party or the facility in which the spill occurred is responsible for response, which will generally be able to respond to and cleanup a spill using local resources. In areas where a responsible party cannot be located, DPTI may respond.

Tier 2	Spills of 10 and <1,000 tonnes[1] Regional or State Response. A medium spill requiring regional or State response as such spills could have a serious impact on the marine environment. If within an area under the control or management of a Responsible Party, this Party is to respond and do all that is possible to contain the spill until the State Marine Pollution Controller can activate SAMSCAP and assume control or otherwise assign responsibility to an Incident Controller (IC).
Tier 3	Spills of >1,000 tonnes[1] National Response: A large spill requiring national and possibly international assistance. These are major spill responses which require the mobilisation of National (Government and Industry) SAMSCAP and the State Emergency Management Committee.

(1) Indicative volumes only. Tier will depend on a number of other factors also, e.g. location, type of material spilled and resources threatened.

Table 4.2 Description of Chemical (Hazardous and Noxious Substances) Spill Response Tiers

Tier	Description
Tier 1	Potential Emergency Condition: A minor chemical incident that only requires response within the boundaries of the berth, vessel or small geographical area. No impact or problems are anticipated outside the operations area. Control or Response Agencies will generally be able to respond to and clean up the spill with local resources. Additional resources may be available from chemical industry, local government, Control Agency, National Plan arrangements, or adjacent industry operators.
Tier 2	Limited Emergency Condition: A significant chemical incident that can be responded to within the boundaries of the berth, vessel or geographical area, but which may have a serious impact on human life and/or the environment. The Control Agency will initiate a response and simultaneously notify AMSA and the State Coordinator. Local resources may need to be supplemented by regional or interstate resources.
Tier 3	Full Emergency Condition: A major chemical incident that will pose a very serious impact on human life and/or significantly affect the environment. The Control Agency will initiate a response and simultaneously notify the AMSA and the State Coordinator. Local resources may need to be supplemented by regional, national and international resources. Assistance from AMSA, in consultation with the chemical industry, may be obtained in the case of major incidents.

4.3 State Departmental Responsibilities

A number of State agencies have responsibilities' roles which include marine response functions or support functions which may be called upon during a spill response. These are listed in Table 4.5.

Table 4.3 Summary of State Agency Responsibilities

Agency	Role	Preparedness and Response Responsibilities
Department of Planning, Transport and Infrastructure	• Control Agency for spills of oil or hazardous substances in State waters	• Maintenance of SAMSCAP • Chair and executive support of the State Marine Pollution Committee • Preparing, undertaking and monitoring oil and hazardous and noxious substances marine spill training • Leading the response and responding to spills of all types and levels in State waters
Department of the Environment, Water and Natural Resources (DEWNR)	• Statutory Authority for protection of wildlife • Control Agency for oiled wildlife response	• Maintenance the South Australian Oiled Wildlife Plan • Maintenance of wildlife cleanup personnel and levels of training • Acquisition and maintenance of wildlife response equipment • Responding to wildlife needs in the event of a spill of oil or hazardous substances in State waters.
Department of State Development (DSD)	• Statutory Authority for spills from offshore exploration and production activities in State waters	• Approval of offshore exploration and production oil spill contingency plans
Environmental Protection Authority (EPA)	• May review compliance of facilities with any licence conditions relating to marine spill response	• Provides Environmental and Scientific Coordinator

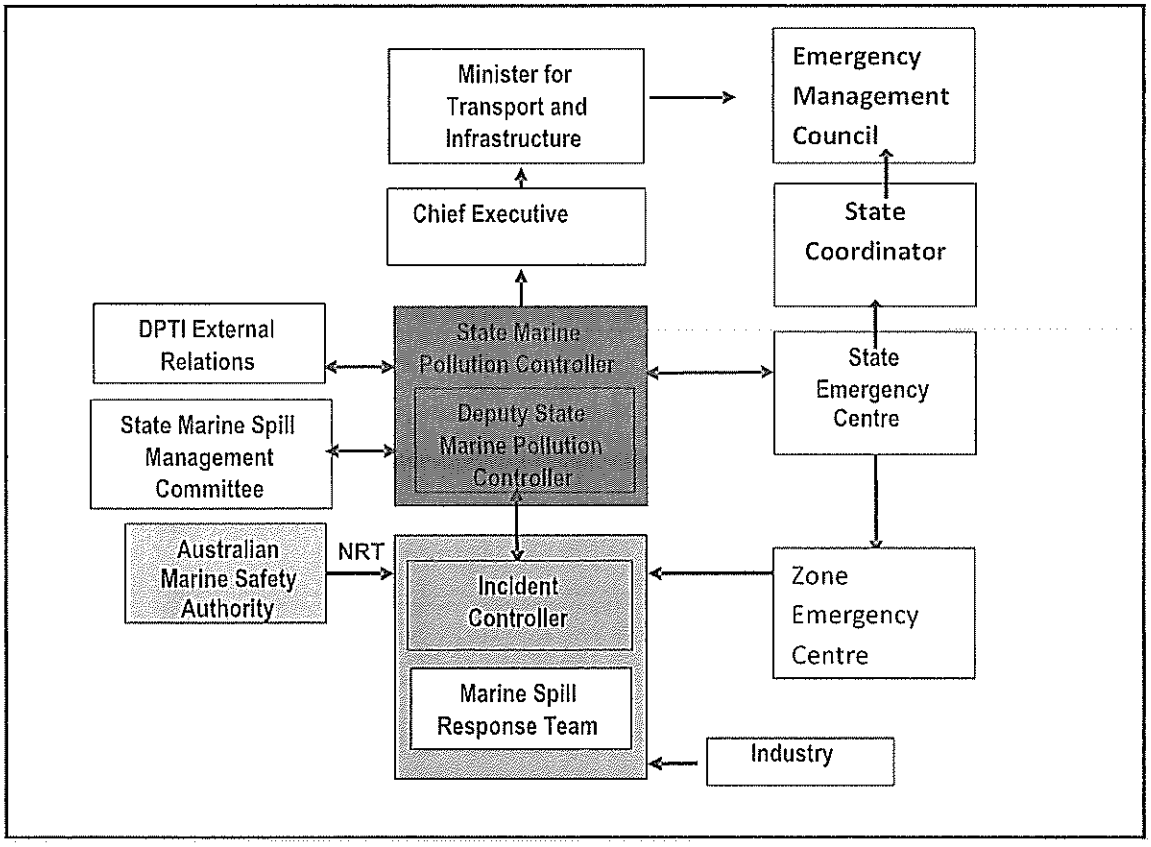
South Australia Police (SAPOL)	• Maintenance of public order and security • Coordinating Agency	• Provides advice on Critical Infrastructure, response capability and emergency management issues
South Australian Metropolitan Fire Service (SAMFS) and Country Fire Service (CFS)	• Control Agencies for land based and in land water hazardous materials incidents in South Australia	• Support for Control Agencies during marine spills involving oil and noxious substances • Control Agencies for inland water spills involving oil and noxious substances • SAMFS have specialised equipment suitable for detection of and response to hazardous and noxious substance spills
Port Authorities	• Have pollution response plans in place in the event of a spill in port waters. • Undertake first response to any spill occurring in port waters and combat Tier 1 spills with assistance necessary for the State Marine Pollution Controller	• Responsible for having sufficient trained personnel and response equipment to effectively mount a Tier 1 response • Maintain a Port Oil Spill Contingency Plan • Response Agency for spills within port limits (Tier 1)
Local Councils	• Responsible for maintenance of shorelines and access to public areas	• DPTI has an 'in-principle' agreement with local councils to provide assistance during a marine spill incident in that area of their responsibility. This assistance may be in the form of supplying equipment and personnel to assist in clean up operations or providing access to foreshore areas for clean up personnel
Oil and Gas Title Holders	• Responsible for safe operation of rig and supporting marine activities • Have response plans in place	• Have trained personnel and equipment in place to immediately respond to a spill • Communicate event details to stakeholders in a timely fashion • Establish both incident and crisis response teams

4.5 Organisation of Response

The response to any marine pollution incident is managed by the nominated Incident Controller and Marine Spill Response Team.

Support is provided by the emergency services and the South Australian Marine Spill Management Committee through the State Marine Pollution Controller and the State Emergency Centre through the State Coordinator. This is illustrated in Table 4.6.

Figure 4.6 Response Organisation



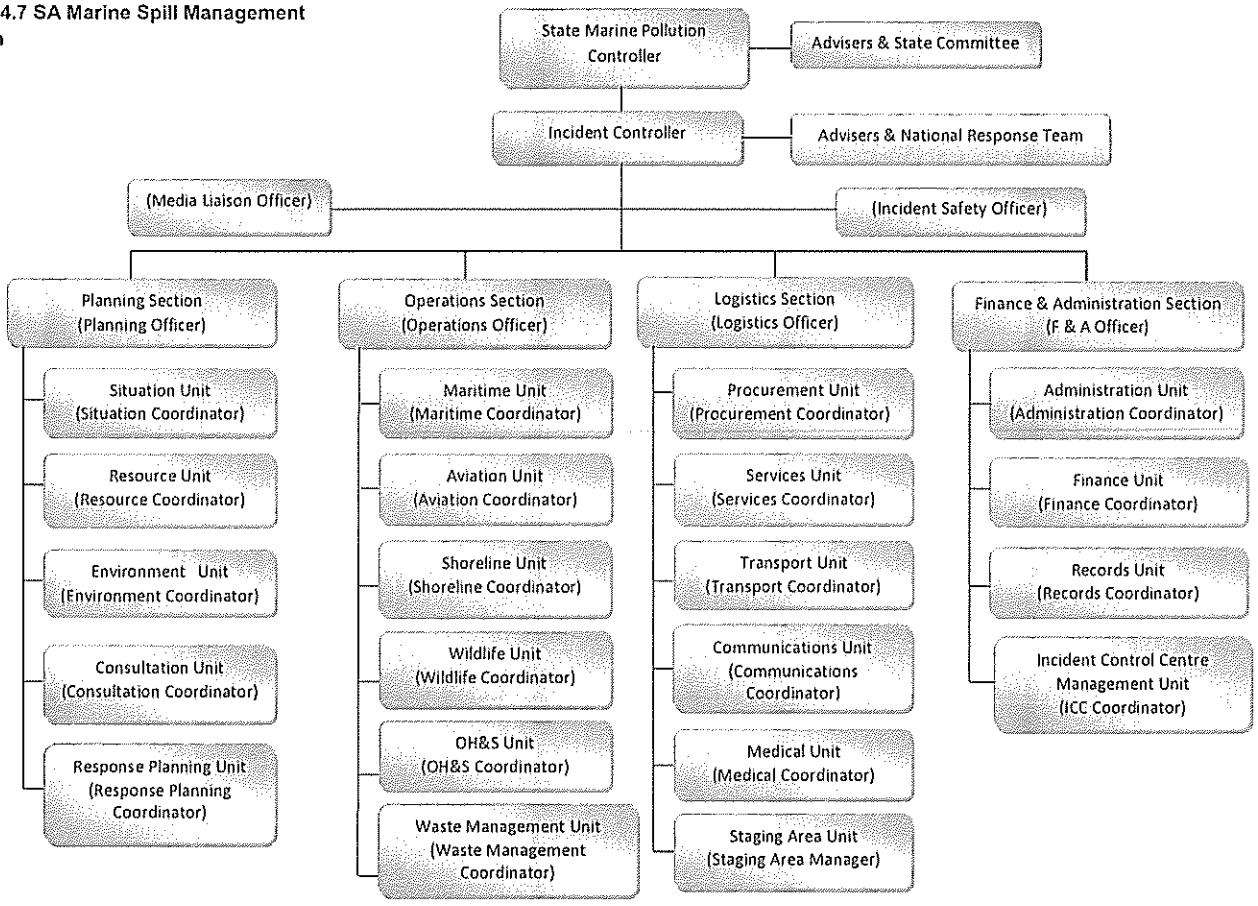
4.6 Incident Management System

There are a number of different, but similar, incident management systems in use in both the emergency management and marine spill response arenas. All follow similar principles of:

- Common language
- Flexibility / Scalability
- Span of Control
- Management by objectives
- Functional Management

The South Australian Marine Spill Response team uses an incident management system that draws on, and is aligned with, the principles of the Common Incident Management Framework (CIMF) and Australasian Inter-Agency Incident Management System 4 (AIIMS 4). Figure 4.7 outlines the management system.

Figure 4.7 SA Marine Spill Management System



4.7 Investigation

If an investigation of the incident is warranted, the investigation may be carried out by the Australian Transport Safety Board's Marine Investigation Unit, the SA Water Police, Safework SA, Environment Protection Agency or Investigators from the Australian Maritime Safety Authority. The incident controller will ensure that the investigators are able to conduct their investigation in coordination with the response activities.

4.8 Spontaneous Volunteers

Where possible, it is preferable to use paid, trained staff to respond to a marine spill. However, especially in popular beach areas, spontaneous volunteers may wish to contribute to the clean-up efforts.

The decision to use spontaneous volunteers is to be made by the Incident Controller, in consultation with advisors and the SMPC. If spontaneous volunteers are not to be used, the incident controller should give consideration to site security as some volunteers may choose to self-deploy.

The State Recovery Office, within the Department for Communities and Social Inclusion (DCSI) follows the National Spontaneous Volunteer guidelines and has established methodologies to call for, register and assign duties to suitable spontaneous volunteers. The Incident Controller should assign a person and/or team to ensure that suitable volunteers are registered, trained, assigned appropriate personal protective equipment and understand the response framework.

4.9 Use of dispersant

Dispersants must not be used in South Australian State Waters without the authorization of the State Marine Pollution Controller (SMPC). The SMPC must not authorise the use of dispersant without first consulting with the Environmental Scientific Coordinators (ESC) from the Environmental Protection Authority (EPA).

4.10 Air Observers/Air Attack Supervisors

Depending on the location of the spill, it may be prudent for the incident controller to gain more information by deploying air observers and/or air attack supervisors. There are a number of agencies who have trained air observers who can be given additional training to undertake oil spill air observation. The CFS, SES and DEWNR have air observers and AMSA is able to source more air observers through the National Plan.

4.11 Salvage Operations

Often in large spills, the cause of the spill is a vessel that has grounded or collided with another vessel that necessitates a salvage operation of that vessel. The Incident Controller must work with the salvors as there will be competition for the same resources. The salvors and incident controller should determine the priorities and allocate resources accordingly.

4.12 Public Information and Media Arrangements

For Tier 1 responses, especially where the response is wholly managed by another agency, it is expected that the response agency will activate their own media management resources in order to keep the media and public informed of incident details and response activity.

For higher tiered responses, the State Marine Pollution Controller may appoint a Media Liaison Officer (MLO) and, if needed, a Media Liaison Unit to manage this aspect of the response. The MLO will act under the direction of the State Marine Pollution Controller. Unless otherwise specified, this will be DPTI's General Manager, Customer Experience.

Until such time as incident specific arrangements are put in place, media should be directed to the DPTI Media call line on 1300 856 933.

In higher tier responses where the SEC and/or AMSA are activated, public information and media arrangements will fall under the SEC and/or AMSA arrangements and be coordinated through the Public Information Functional Service.

4.13 Financial Arrangements for Recovery

4.13.1 Polluter Pays

The *Oil Pollution Act (1990)* as well as the *International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)* observes the "polluter pays" principle – that is, whichever vessel (or rig) that caused the spill, is responsible for paying for the clean-up. The wording is such that legal teams have determined it is the vessel from which the oil came that is responsible to pay for the clean-up.

This is important, because the vessel from which the oil came may not be the vessel that caused the accident to occur. This has legal and liability implications which the "pollution pays" principle of strict liability was meant to resolve.

While the polluter may be responsible for paying for the clean-up, response agencies, including the SA government and industry resources such as the Australian Marine Oil Spill Company (AMOSC), must first fund the response and recover costs from the polluter (and their insurance company) later.

Good records are to be kept regarding the type of response, who attended, what their tasks were, what resources were used and other associated costs. Polreps and Sitreps are useful documents, as are asset lists, deployment plans and other documents that show what information was available to the decision makers at the time a decision was made.

4.13.2 Protection of Responders from Liability

Section 40 "Liability" of Division 4 "Other matters" of the *Protection of Marine Waters (Prevention of Pollution from Ships) Act* states responders have protection from liability. Responders must be trained, use appropriate protective clothing and equipment and follow appropriate instructions.

4.14 Incident Control Centres.

These can be located at any suitable area near the incident site that has suitable facilities. Suitable facilities may include but are not limited to:

- Wi-fi or broadband access to the internet
- Sufficient number of computer, telephone and power outlets
- Sufficient number of desks, chairs and other office equipment

DPTI has identified that conference rooms located at 77 Grenfell Street and Regency Park offices may suffice as an initial incident control centre until a suitable location can be determined by the Incident Controller.

4.15 Ending the Response Phase.

4.15.1 Run Down

The response phase ends when the State Marine Pollution Controller, in consultation with the Incident Controller and other advisors, determines that the spill has been collected and/or cleaned with respect to the Net Environmental Benefit (NEB).

It may not be possible to clean every beach, rock, cliff face, or area that has been affected by a spill due to inaccessibility, high energy coastline, or sensitivity of the area. Pursuing further cleaning of the area may affect the bathometry of the area, plant life or otherwise be of little benefit in pursuing.

4.15.2 Rundown Action Plan

Just as an incident action plan is developed at the beginning and during a response, so a rundown action plan should be developed to ensure that all equipment is cleaned, repaired and sent back to where it came from, sites are appropriately cleaned and handed back to the owner and staff are back to their regular work safely.

4.15.3 Triggers for ending response phase

The Incident Controller and SMPC should give consideration to ending the response phase when one or more of these elements are noted:

- The source of the spill has been identified and contained e.g. no more substance is being leaked into the water
- Most (if not all) of the existing substance in the water has been collected
- Most (if not all) of the existing substance on the shoreline has been collected

- There is little or no re-oiling of the water or shoreline observed
- There is no environmental benefit in continuing a response
- The affected area is inaccessible, environmentally sensitive (e.g. it would do more damage to clean the area than to let the oil/noxious substance weather naturally) or otherwise unsuitable for response activities
- Supporting agencies, environmental advisors and/or the marine spill committee recommends the response phase ends.

Part 5 – RECOVERY

5.1 Debrief

As per the requirements of the SEMP, within 3 weeks of the completion of a marine spill response, a debrief will be convened by the Control Agency to capture any lessons learned. A summary of the debrief including recommendations and/or actions will be supplied to the State Response Advisory Group.

The debrief should address but not be limited to:

- Spill causes (if known);
- Spill response:
  - Speed,
  - Operation, and
  - Effectiveness;
- Equipment accessibility, deployment and suitability;
- Health, safety and welfare issues (if any);
- Integration of plan and procedures with other response agencies;
- Communication/coordination effectiveness.

Please see annex E of the SEMP for guidelines on conducting a debrief.

5.2 Recovery

For marine spill response, recovery activities may include:

- regular monitoring of impacted sites
- ensuring stakeholders are satisfied with completion of response activities
- ensuring financial and legal obligations are resolved

Part 6 - RESOURCES

South Australia has a stockpile of spill response equipment located at key ports (see below) and this is supported by National Plan equipment stockpiles accessed via AMSA.

6.1 Tier One Response Equipment

Each port and facility is required by licence, lease or agreement conditions to have sufficient response equipment to deal with a Tier 1 oil spill or Level 1 hazardous and noxious substances spill.

This equipment must be stored and maintained in a condition to ensure that it is ready for immediate deployment following the initial assessment of the spill report.

The port or facility manager is required to ensure that regular serviceability checks are conducted on each piece of equipment and that employees are adequately trained in its operation, deployment, recovery and rehabilitation.

It is recommended that port or port facility operators conduct annual response exercises and that as part of this program the equipment is fully deployed.

Table 6.1 Nominated Facility Tier 1 Support Agencies in South Australia

Facility	Nominated Tier 1 Support Agency
Ports managed by Flinders Ports: Port Adelaide, Klein Point, Port Giles, Port Lincoln, Port Pirie, Thevenard and Wallaroo.	Flinders Ports with higher tier assistance from DPTI.
Ardrossan	Viterra Ltd
Whyalla	Arrium
Port Bonython	Santos
Oil terminals, platforms, petroleum exploration facilities and pipelines	The relevant managing company

6.2 Higher Tier Equipment

State Stockpiles

State and National Plan oil spill response equipment is stored at:

- Port Adelaide
- Walkley Heights
- Port Lincoln
- Port Pirie
- Wallaroo
- Thevenard

A dispersant stockpile is located at Calvin Grove Airfield, Virginia and north of Adelaide.

6.3 National Plan Stockpile

AMSA owns and maintains nine National Plan oil pollution response equipment stockpiles at strategic locations in Australia. The equipment in these stockpiles is available to all National Plan partners in a major incident.

The South Australian component of the National Plan stockpile is located in Walkley Heights and managed by DPTI.

A full list of available oil spill response equipment can be obtained from the Marine Oil Spill Equipment System (MOSES) list which can be accessed on the AMSA website.

6.4 Industry Higher Tier Equipment: The Australian Marine Oil Spill Centre (AMOSC)

AMOSC holds Tier 2 and Tier 3 equipment stockpile at Corio Quay Victoria (near Geelong) and smaller stockpiles in Western Australia.

This equipment can be accessed through the responsible party (the spiller) if a member of AMOSC, or through AMSA.

6.5 Specialist Hazardous and Noxious Substances Equipment

The South Australian Metropolitan Fire Service owns an amount of specialised equipment for responding to hazardous and noxious substance spill incidents and other emergency situations.

Specially trained personnel are also available to operate the equipment or provide advice to the Control Agency on the most effective response strategy.

6.6 State Oil Spill Resources Atlas (OSRA)

A computer-based resource atlas covering the South Australian coast provides immediate access to information on the resources of any coastal zone. The Atlas incorporates a spill prediction model, and provides maps on:

- Environmentally sensitive areas (natural, cultural, heritage);
- Shoreline and marine habitats;
- Aquaculture leases and land tenure;
- Port, shoreline and transport infrastructure; and
- Bathymetric and tidal conditions.

Part 7 – PLACE OF REFUGE

A vessel in distress or requiring assistance may request a Place of Refuge so that it can carry out repairs or regain stability. A Place of Refuge could be closer to shore in more sheltered or calmer waters or could be a request to come into a port or suitable berth.

7.1 State Arrangements

For vessels within State waters, the approval of a request for a Place of Refuge is the responsibility of DPTI. The approval will be undertaken in consultation with AMSA and relevant port authorities/facility operators.

DPTI has adopted the National Maritime Place of Refuge Risk Assessment Guidelines.

7.2 National Arrangements

AMSA has appointed a Maritime Emergency Response Commander to act on behalf of the Authority during a shipping casualty in Commonwealth waters.

The Commander is responsible for the management of emergency intervention issues in response to maritime casualty incidents where there is an actual or potential risk of significant pollution.

The Commander is appointed by AMSA and is supported by statutory powers under the *Protection of the Sea (Powers of Intervention) Act*.

The Commander will endeavour to consider all relevant legal, practical, environmental, socio-economic and operational issues in deciding whether and how to respond to a maritime casualty, as dictated by the circumstances of each particular casualty.

The Commander has appropriate statutory powers to enable effective decision-making consistent with the aim of the National Marine Emergency Response Arrangements. The Commander manages AMSA's responsibilities under the National Plan and manages the national emergency towage program.

ACRONYMS

ADIOS	Automated Data Inquiry for Oil Spills. Oil weathering model developed by NOAA
AIIMS	Australasian InterService (or agency) Incident Management System
AMOSC	Australian Marine Oil Spill Centre
AMOSPlan	Australian Marine Oil Spill Centre Plan
AMSA	Australian Maritime Safety Authority
AusSAR	Australian Search and Rescue
CA	Control Agency
CFS	Country Fire Service
DEWNR	Department of Environment, Water and Natural Resources.
DPTI	SA Department of Planning, Transport and Infrastructure
EMA	Emergency Management Australia
EPA	Environment Protection Agency (SA)
ESC	Environmental and Scientific Coordinator (drawn from the EPA)
H&S	Health and Safety
HFO	Heavy Fuel Oil
HNS	Hazardous and Noxious Substances
HSC	Health and Safety Coordinator
IAP	Incident Action Plan
IC	Incident Controller
ICC	Incident Control Centre
ICS	Incident Control System (US based Incident management system)
IGA	Intergovernmental Agreement
IMT	Incident Management Team
LNG	Liquefied Natural Gas
MAC	Mutual Aid Contact (AMOSPlan term)
MARPOL	*International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)*
MEPR	Marine Environment Protection Response (of the AMSA, Marine Environment Division)
MERCOM	Marine Emergency Response Commander
MoAA	Memorandum of Administrative Arrangement
MoU	Memorandum of Understanding

MOSES	Marine Oil Spill Equipment System (AMSA equipment tracking program)
MPCP	Marine Pollution Contingency Plan
RCC	Rescue Coordination Centre
MSDS	Material Safety Data Sheet now called "SDS" – Safety Data Sheet
NATPLAN	National Plan. The National Plan for Maritime Environmental Emergencies
NEBA	Net Environmental Benefit Analysis (or Assessment)
NMERA	National Maritime Emergency Response Arrangement
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NOAA	(US) National Atmospheric and Oceanographic Association
NPSCC	National Plan Strategic Coordination Committee
NPSIAF	National Plan Strategic Industry Advisory Committee
NRT	National Response Team
OH&S	Occupational Health and Safety
OPEP	Oil Pollution Emergency Plan
OSR	Oil spill response
OSCP	Oil Spill Contingency Plan
OSRA	Oil Spill Response Atlas
OSTM	Oil Spill Trajectory Model
PIRSA	Primary Industries and Resources South Australia
POLREP	Pollution Report
POR	Place (or Port) of Refuge
PPRR	Comprehensive approach to managing emergencies – Prevention (Mitigation), Planning, Response and Recovery
SAFECOM	South Australia Fire and Emergency Services Commission
SAMFS	South Australian Metropolitan Fire Services
SAMSCAP	South Australian Marine Spill Contingency Action Plan
SAMSMC	South Australian Marine Spill Management Committee
SAPOL	South Australia Police
SEMC	State Emergency Management Committee
SEMP	State Emergency Management Plan
SEC	State Emergency Centre
SES	State Emergency Service
SITREP	Situation Report
SMPC	State Marine Pollution Controller
SRT	State Response Team

APPENDIX 1 – DISTRIBUTION LIST

Stakeholder	Name
State Emergency Management Council	Louise Russell DPC
State Recovery Advisory Group	Russell Dippy SAPOL
State Mitigation Advisory Group	Linda Haskins SAFECOM
Department of Planning, Transport and Infrastructure	Paul Gelston David Rogers Peter Thomas Marilyn Hood Jim Psyridis
Metropolitan Fire Service	Michael Morgan Rob Prime
Country Fire Service	Rob Sandford Wayne Atkins David Pearce
State Emergency Service	Graeme Wynwood Jo Brooks
Volunteer Marine Rescue	Darryl Wright
South Australian Police	Phil Grear Russell Dippy Simon Cocks
Flinders Ports	Carl Kavina
SANTOS	Jim Philips
Environmental Protection Authority	Gerard Hocking Peter Pfennig Stephen Barry
BP Australia	Christopher (Kit) Tennant Renee Preece
Department of Environment, Water and Natural Resources	Deb Kelly Jodi Tim Winter
Department of State Development	Stacey Bunn
Australian Maritime Safety Authority	Toby Stone Jamie Storrie
Svitzer Australasia	Cheree Figg
Primary Industries and Regions SA	Annabel Jones
Shell Australia	Darren Barlow

APPENDIX 2 – RISK ASSESSMENT

Environmentally Sensitive Areas

Overview

South Australia relies heavily on commercial shipping for exports and imports with over 1,700 ships visiting SA ports every year. These ships include around 150 port visits by tankers and other product carriers' carrying in excess of 2 million tonnes of refined and crude oil cargo into and out of South Australia every year.

Although tankers represent a large risk based on the quantity of oil and chemical substances carried per vessel, other vessels present a significant risk based on the fuel carried as bunkers and other cargo.

The recent National Plan commissioned "Assessment of the Risk of Pollution from Marine Oil Spills in Australian Ports and Waters" (DNV, 2011) has reviewed risk and findings related to South Australia are presented in Figures A1 to A3 and the table below.

Figure A.1 Risk Regions (DNV, 2011)

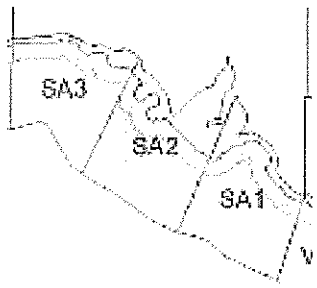


Figure A.2 Predicted Frequency of Spills >1tonne (DNV, 2011)

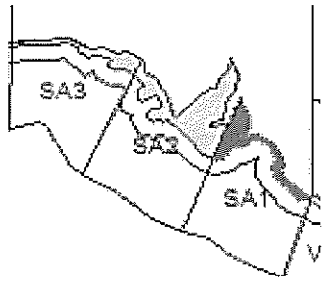
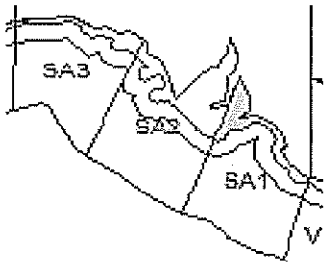


Table A.1 Risk Categories (DNV, 2011)

Category		Frequency (per Year)	Interval (Years)
Very High		>0.1	<10
High		0.01 to 0.1	10 to 100
Moderate		0.001 to 0.01	100 to 1,000
Low		0.0001 to 0.001	1,000 to 10,000
Very Low		<0.0001	>10,000

Ships transiting east and west through the Great Australian Bight also have the potential to cause marine pollution from either fuel oil (bunkers) or cargo spills.

Figure A.3 Predicted Frequency of Spills >100 tonne (DNV, 2011)



South Australia also has a number of privately owned commercial vessels involved in the tourism and local freight industry catering for passenger and cargo movements between SA ports. These vessels present a hazard from the carriage of marine grade diesel used as fuel.

This amount of marine transport presents a significant risk of marine pollution from either accidental or illegal operational discharges. High risk areas have been identified within South Australia waters based on an assessment of the size of vessels, frequency of vessel movement and type of oil transported as fuel or cargo.

This assessment takes into consideration the following factors:

- Navigation hazards;
- Quantity of petroleum cargo and bunkers carried;
- Frequency and type of shipping movements;
- Potential consequences of oil reaching the coast and affecting marine eco systems, aquaculture and fisheries.

In addition, BP has undertaken exploratory surveys of the Great Australian Bight and are expected to conduct test drilling for oil in 2016. Discussions are ongoing between BP and DPTI in regards to response arrangements.

There are three other title holders for exploratory drilling in this area and DPTI are engaging with all title holders to ensure response arrangements are in place.

Regional Sensitivities

Risk Zone SA 3: Far West Coast

WA to Ceduna

The coastline of this region is dominated by high vertical limestone cliffs. Access to shorelines is very limited and wave energies can be high.

The Head of Bight area is internationally important as a nursery area for Southern Right

Whales (*Eubalaena australis*).

No ports or large coastal settlements are present.

Note: It is noted that oil exploration is likely to commence in the Bight and it is likely that oil extraction may occur in the next few years.

Terrestrial Parks

- Nullarbor Wilderness Protection Area
- Wahgunyah Conservation Park
- Fowlers Bay Conservation Park
- Chadinga Conservation Park
- Point Bell Conservation Park
- Acraman Creek Conservation Park

Marine Parks

- Far West Coast Marine Park (Head of Bight)
- Nuyts Archipelago Marine Park (Ceduna);

Risk Zone SA 2: West Coast and Spencer Gulf

The West Coast: Ceduna to Port Lincoln

The west coast, particularly around Thevenard, is characterised by sandy and rocky shorelines and off-shore reefs. Conservation parks supporting seabird and marine mammal populations, border rugged offshore islands and coastline on the southern approaches to Spencer Gulf. There are significant seagrass and mangrove environments between Thevenard and Port Lincoln.

There are numerous oyster farms in shallow intertidal areas along this coastline. Their scattered distribution makes protection difficult.

Note: With the exploration of oil in the Bight and the anticipated installation of an exploration drill in coming years, there will be an increase of shipping traffic to both Port Lincoln and Port Adelaide which will increased the risks in these areas.

Terrestrial Parks

- Sceale Bay Conservation Park
- Venus Bay conservation Park

Marine Parks

- West Coast Bays Marine Park (Streaky Bay);
- Investigator Marine Park;
- Thorny Passage Marine Park.

Risks

- Port of Thevenard;
- Ceduna.

Spencer Gulf

Spencer Gulf is considered environmentally highly sensitive. To the south around Port Lincoln and in the Gulf, there are many islands and coastal conservation parks. These islands support significant bird and marine mammal populations and an increasingly important tourist industry. Around Port Lincoln, a growing aquaculture industry is socially and economically significant.

Central and upper Spencer Gulf includes extensive bird habitats and combines extensive mangrove and seagrass environments containing spawning and nursery grounds for the highly productive fin fish and prawn fisheries of the region. This area also has aquaculture and Marine Parks and has increasing shipping to service the mining industry.

Terrestrial Parks

- Coffin Bay National Park

Marine Parks

- Sir Josephs Banks Group;
- Neptune Islands Group;
- Gambier Islands Group;
- Franklin Harbour;
- Upper Spencer Gulf ;
- Eastern Spencer Gulf;
- Southern Spencer Gulf.

Risks

- Port Lincoln;
- Whyalla;
- Port Bonython;
- Port Augusta;
- Port Pirie;
- Port Broughton;
- Wallaroo;
- Port Victoria.

Risk Zone SA 1: Gulf St Vincent and the South East

Gulf St Vincent

This area has a combination of both cultural and environmental sensitivity factors. Gulf St Vincent is characterised on its eastern shores by long, frequent use recreational beaches bordering the greater Adelaide area. There are offshore seagrass beds along most of this coastline.

North and immediately next to Port Adelaide are more mangrove and seagrass areas, which support significant fish and bird populations. Many of these areas are conservation parks or aquatic reserves. Samphire Coast.

The western shore of Gulf St Vincent is well settled with small fishing/tourist orientated communities. The offshore seagrass and reef habitats contribute to the recreational and commercial fishing of the Gulf.

Terrestrial Parks

- Innes National Park
- Deep Creek Conservation Park

Marine Parks

- Lower Yorke Peninsula;
- Upper Gulf St Vincent

Also present is the Adelaide Dolphin Sanctuary from Port Adelaide to St Kilda.

Risks

- Port Vincent;
- Ardrossan;
- Port Wakefield;
- Port Adelaide.

Investigator Strait

Investigator Strait is the busiest shipping channel within State waters. Shipping routes are from the western approach of Investigator Strait to Gulf St Vincent and Spencer Gulf, as well as from the east through Backstairs Passage and proceeding to Spencer Gulf. All vessels visiting the ports within the State's waters will at some time transit Investigator Strait.

The southern end of the Yorke Peninsula and outlying islands form the northern shore of Investigator Strait which supports significant bird and marine life. Much of this area has been designated as conservation parks or aquatic reserves. The area is also well settled with small fishing/tourist orientated communities.

Kangaroo Island

The shorelines of Kangaroo Island range from exposed cliffs to platforms and long sandy beaches.

The coast of Kangaroo Island supports significant bird and marine life, including Sea Lions (*Neophoca cinerea*) and Fur Seals *(Arctocephalus forsteri)* and is one of the State's major tourist attractions.

There are also numerous fish farms located along the northern coastline. Their scattered distribution makes protection difficult.

Terrestrial Parks

- Flinders Chase National Park
- Cape Gantehaume Wilderness Area

Marine and Coastal Parks

- Western Kangaroo Island;
- Southern Kangaroo Island;
- Seal Bay Conservation Park.

Risks

- Kingscote.

The Limestone Coast

The Limestone Coast region is characterised by rocky shores in the west, long sandy beaches in the central sub-region (adjacent to the Coorong) and rocky platforms and low cliffs in the east.

Bird nesting and roosting areas occur throughout (including Little Penguins as do Sea Lion and Fur Seal breeding and haul-out sites).

Numerous fishing ports are present, particularly in the eastern half of the region.

Terrestrial Parks

- Coorong National Park
- Little Dip Conservation Park

Marine Parks

- Encounter;
- Upper Southeast;
- Lower Southeast.

Risks

- Numerous fishing ports.

Potential Spill Sources

The specific risks associated with tankers transiting South Australian State waters and visiting SA ports have been assessed as having the potential to cause a major spill.
See Table A.2.

Types of Oil and Chemicals Likely to be Spilled

An accurate estimation of the quantities and type of oil likely to be spilled from any maritime incident is very difficult. However, with knowledge of the ship types that visit South Australian waters and ports, a number of broad predictions can be used as a starting point to develop various risk management scenarios.

An accurate estimation of the quantities and type of chemicals that may be spilt as a result of a maritime incident is even more difficult.

Although information on specific bulk chemicals can be obtained from import and export documents, the type of packaging as either bulk, containerised or packaged cargo make it difficult to estimate the quantities with potential to be spilt.

Further inaccuracies can occur given the current system for labelling of dangerous goods with many chemicals packaged with other 'general cargo'.

Identification of pollutant and estimation of quantities is also very difficult from illegal operational discharges. Accurate assessment and obtaining of samples may be the only way to provide estimations of oily residues or unidentified hazardous substances released into the marine environment.

Table A2 provides a broad estimation of types and quantities of oil likely to be spilt based on ship type and incident scenario.

Table A.2 Potential and Indicative Spills and Volumes

Source/ Vessel Type	Locations	Potential Incident	Vessel Size	Oil Type and Potential Volumes		
				Cargo	Fuel: HFO	Fuel Diesel
Terminal Operations Oil/LNG? Tanker/Jetty	Port Bonython Port Lincoln Port Adelaide	Loading/off-loading errors Pipeline Rupture	Any	< 10T		< 10T
Other vessels	All ports	Loading/off-loading errors	Any	Small spills <1-10T		
Bulk Carriers Grain Carriers Container Vessels	Investigator Strait Spencer Gulf Port Adelaide Port Pirie	Total Loss	40-50,000DWT			
			50-60,000DWT		Up to 2,200T	Diesel 300T
			60-90,000 DWT		Up to 4,500T	Diesel 300T
			90,000 DWT		Up to 4,500T	Diesel 400T
	Investigator Strait Spencer Gulf	Collision one wing tank	Any		Up to 200T	
		Grounding one bottom tank	Any		Up to 600T	
Oil Tankers	Investigator Strait Spencer Gulf Gulf St Vincent West Coast	Major Grounding or Collision	30,000 DWT	30,000 T	1350T	
			100,000 DWT		7000T	
		Minor Grounding or Collision	30,000 DWT		1350T	700T
			100,000 DWT		7000T	
Tug/Pilot Vessel	Spencer Gulf	Total loss				12T
	Gulf St Vincent	Collision				12T
Fishing vessel/ferry	Investigator Strait Spencer Gulf Gulf St Vincent West Coast	Total loss				50T
		Collision				10Ts

Probable Fate of Spilled Oil and Chemicals

The final fate of spilt oil or chemicals is difficult to predict as it is based on many factors including:

- Type of oil or chemical;
- Quantity;
- Location of spill;
- Sea conditions;
- Weather;
- Response.

Broadly, all oil and chemical substances will go through a number of physical and chemical changes when released into the marine environment. These are listed in table A.3.

Table A.3 Potential Physical and Chemical Changes of Spilt Products

Oil	Chemicals
• Spreading (for spill response surface oil only needs to be considered) • Evaporation • Physical dispersion (suspension in the water column) • Dissolution • Emulsification • Oxidation • Sedimentation • Biodegradation • Combustion	• Spreading; - Surface - Water column (water miscible or soluble) - Atmosphere (gaseous phases) • Physical dispersion (see above) • Sinking • Evaporation • Dissolution (and dilution)Reaction with air, water or other components of the receiving environment • Combustion or explosion

Of most importance to any SAMSCAP response is an estimation of when and where the spilt oil or chemical will come into contact with people, sensitive environments and infrastructure. This prediction is most dependent on the advection of the oil or chemical under the influence of currents, tides and wind.