

# Report on the 2011/12 Review of the National Plan to Combat Pollution of the Sea by Oil and Other Hazardous and Noxious Substances and the National Maritime Emergency Response Arrangements





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Combat Pollution of the Sea by Oil and Other Hazardous  
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Emergency Response Arrangements

October 2012



# CONTENTS

List of Acronyms used in this Report	v
1. EXECUTIVE SUMMARY	1
2. BACKGROUND TO THE REVIEW	3
Overview of the National Plan	3
National Maritime Emergency Response Arrangements	6
The Need for the Review	9
3. PROJECTS CONDUCTED DURING THE REVIEW	12
Project 1: Risk Assessment	12
Project 2: The National Plan/NMERA Review	15
4. MANAGEMENT OF THE NATIONAL PLAN	17
Inter-Governmental Agreements	17
National Plan/NMERA Governance and Management	18
International Conventions	20
National Plan Legislation	20
5. DISASTER AND EMERGENCY MANAGEMENT	22
Disaster Management Arrangements	22
Incident Management	22
Prevention, Preparedness, Response and Recovery	23
National Plan Terminology	24
6. COMMONWEALTH PREPAREDNESS	25
Commonwealth Preparedness Arrangements	25
Incident Management	25
External Territories	26
REEFPLAN	26
7. STRATEGIC ISSUES	27
Benchmark	27
National Plan Review	28
Risk Assessment	29
8. MARINE POLLUTION RESPONSE	30
Hazardous and Noxious Substances	30
Equipment and Response Assets	31
Storage and Maintenance	32
Training	33
Succession Planning and National Response Team	35
Exercises	36
Incident and Exercise Reports	37
Response Support	38
Modelling	40
Asset Management System	40

9.	SALVAGE AND INTERVENTION	41
	Incident Management	41
	Emergency Towage Capability	42
10.	FUNDING AND COST RECOVERY	43
	Cost Recovery Policy and Procedures	43
	Polluter Pays Principle	44
	Limitation of Liability for Maritime Claims	44
11.	ENVIRONMENT AND SCIENCE	45
	State Environmental Advisors/ESC	46
	Expert Scientific Body	47
	Post Spill Monitoring	48
	Oiled Wildlife Response	49
	Research and Development	50
12.	MONTARA COMMISSION OF INQUIRY	51
13.	CONCLUSIONS	53
	Attachment A – Timeline of Events	54
	Attachment B – Terms of Reference for Risk Assessment Project	57
	Attachment C – Terms of Reference for National Plan/NMERA Review Project	61
	Attachment D – Terms of Reference for Strategic Stakeholder Group	65
	Attachment E – New National Plan Management Structure Diagram	66

## LIST OF ACRONYMS USED IN THIS REPORT

AAR	After Action Review
AFAC	Australian Fire and Emergency Services Authorities Council
AIIMS	Australasian Inter-Service Incident Management System
AIP	Australian Institute of Petroleum
AMOSC	Australian Marine Oil Spill Centre
AMS	Australian Maritime Systems
AMSA	Australian Maritime Safety Authority
AMSA Act	<b><i>Australian Maritime Safety Act 1990</i></b>
ATC	Australian Transport Council
AtoN	Aids to Navigation
AUSREP	Australian Ship Reporting System established under Division 14 of Part IV of the <b><i>Navigation Act 1912</i></b> and administered by Marine Order 63
CBT	Competency Based Training
ChemPlan	National Marine Chemical Spill Contingency Plan
ChemPlan Level 1 response	A minor chemical incident that only requires response within the boundaries of the berth, vessel or small geographic area. No impact or problems anticipated outside the operational area.
ChemPlan Level 2 response	A significant chemical incident that can be responded to within the boundaries of the berth, vessel or geographic area, but which may have a serious impact on human life and/or the environment.
ChemPlan Level 3 response	A major chemical incident 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.
COWG	Chemical Operations Working Group
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DNV	Det Norske Veritas
DWT	Deadweight
EEZ	Exclusive Economic Zone
EMA	Emergency Management Australia
ERI	Environmental Risk Index
ESC	Environment and Scientific Co-ordinator
ETV	Emergency Towage Vessel
EWG	Environment Working Group
FWADC	Fixed Wing Aerial Dispersant Capacity
GBRMPA	Great Barrier Reef Marine Park Authority
GIS	Geographical Information Systems
HAZMAT	Hazardous Material
HNS	Hazardous and Noxious Substances
IAT	Incident Analysis Team
IC	Incident Controller
IGA	Inter-Governmental Agreement
IMO	International Maritime Organization
IMOS	Integrated Marine Observing System
IMS	Incident Management System
IMT	Incident Management Team
IOPC Funds	International Oil Pollution Compensation Funds
IPIECA	International Petroleum Industry Environmental Conservation Association
LNG	Liquefied Natural Gas
MARPOL	International Convention for the Prevention of Pollution from Ships
MERCOM	Maritime Emergency Response Commander
MOSES	Marine Oil Spill Response Equipment System

MOU	Memorandum of Understanding
National Plan	National Plan to Combat Pollution of the Sea by Oil and Other Hazardous and Noxious Substances
National Plan IGA	Inter-Governmental Agreement on the National Plan to Combat Pollution of the Sea by Oil and Other Hazardous and Noxious Substances
NEBA	Net Environmental Benefit Analysis
NMERA	National Maritime Emergency Response Arrangements
NMERA IGA	Inter-Governmental Agreement on the National Maritime Emergency Response Arrangements
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NPMC	National Plan Management Committee
NPSCC	National Plan Strategic Coordination Committee
NPSIAF	National Plan Strategic Industry Advisory Forum
NPOG	National Plan Operations Group
NPSCC	National Plan Strategic Consultative Committee
NRST	National Response Support Team
NRT	National Response Team
NT	Northern Territory
OPRC Convention	International Convention on Oil Pollution Preparedness, Response and Cooperation 1990
OPRC-HNS Protocol	2000 Protocol on Hazardous and Noxious Substances under the International Convention on Oil Pollution Preparedness, Response and Cooperation 1990
ORCA	Oil Response Company of Australia Pty Ltd
OSRA	Oil Spill Response Atlas
OSRICS	Oil Spill Response Incident Control System
OSTM	Oil Spill Trajectory Model
P&I Clubs	Protection and Indemnity Clubs
PACPLAN	Pacific Islands Regional Marine Spill Contingency Plan
PB/TCS	Parsons Brinkerhoff/Thompson Clarke Shipping
PPRR	Prevention, Preparedness, Response and Recovery
PSSA	Particularly Sensitive Sea Area
QCCAP	Queensland Coastal Contingency Action Plan
RD&T	Research Development and Technology
RET	Department of Resources, Energy and Tourism
RTO	Registered Training Organisation
SEWPaC	Department of Sustainability, Environment, Water, Population and Communities
SONS	Spill of National Significance
SSG	Strategic Stakeholder Group
Tier 1	Oil spill of up to 10 tonnes
Tier 2	Oil spill of between 10 and 1000 tonnes
Tier 3	Oil spill of more than 1000 tonnes
Type I Monitoring	Environmental monitoring conducted for operational purposes
Type II Monitoring	Non-response monitoring which includes, short term environmental damage assessments, longer term damage assessments (including recovery), purely scientific studies, and all post spill monitoring activities
VTS	Vessel Traffic System
WA	Western Australia

# 1. EXECUTIVE SUMMARY

The 2011/12 Review of Australia's National Plan to Combat Pollution of the Sea by Oil and Other Hazardous and Noxious Substances (the National Plan) and the National Maritime Emergency Response Arrangements (NMERA) represented a unique and timely opportunity to closely examine Australia's capacity and ability to respond to maritime casualties and pollution incidents. Not only were both the National Plan and NMERA scheduled for review, but a series of incidents in recent years, namely the *Pacific Adventurer* and Montara incidents in 2009, were the most comprehensive challenges faced by the National Plan in its 40 year history. The lessons learnt from these incidents covered all aspects of incident response, from weeks of extensive foreshore clean-up close to one of Australia's largest cities to operating in extremely remote areas of open water.

This Report outlines the outcomes of the Review as agreed by the National Plan Management Committee (NPMC) at its 15th meeting in July 2012. The outcomes draw from the two projects undertaken during the Review, and comments from more than 90 Australian and international stakeholders that were contacted during the process, including representatives from:

- relevant Commonwealth, State and Northern Territory (NT) Government authorities;
- the shipping industry;
- the offshore petroleum industry;
- port authorities and harbour masters;
- emergency towage/salvage contractors;
- oil spill response service providers; and
- wildlife response agencies and associated service providers.

The Review found that despite the many challenges facing the Australian Maritime Safety Authority (AMSA) and the other public and private organisations involved in spill preparedness and response, the National Plan and NMERA have served Australia well over the last ten years. Nevertheless, concerns regarding the current and future management and implementation of the National Plan and NMERA were raised, and areas for improvement identified.

Key outcomes from the Review, as agreed by NPMC, include a number of fundamental changes to the National Plan and NMERA. On the ground, the National Plan and NMERA will be better integrated. This will be assisted by combining them into a single document supported by a single Inter-Governmental Agreement (IGA) that will:

- provide clearer linkages to Australia's obligations as a signatory to the International Convention on Oil Pollution Preparedness, Response and Co-operation 1990 (OPRC Convention) and its 2000 Protocol dealing with Hazardous and Noxious Substances (OPRC-HNS Protocol);
- be more closely aligned to Commonwealth and State/NT emergency management arrangements;
- provide:
  - a new governance structure oversighted by the National Plan Strategic Coordination Committee (NPSCC) with membership from the Commonwealth/State/NT Governments;
  - a National Plan Strategic Industry Advisory Forum (NPSIAF) responsible for providing industry-focused advice on strategic issues; and
  - a new committee to provide an increased focus on preparing for and managing incidents in Commonwealth waters.

The Det Norske Veritas Final Report: *Assessment of the Risk of Pollution from Marine Oil Spills in Australian Ports and Waters* (DNV Risk Assessment)<sup>1</sup> identified very high maritime risk areas adjacent to and offshore from both Dampier and Townsville. A \$25 million program of equipment replacement and refurbishment is well under way and includes replenishment and replacement of the two National Plan equipment stockpiles at these locations. New standards will be developed for equipment storage and maintenance in all nine of the equipment stockpiles.

To assist in the implementation of competency based training, AMSA will provide resources to assist the States/NT to:

- align their training with the AMSA Registered Training Organisation (RTO); and
- adapt existing training to a Competency Based Training (CBT) framework, with a view to establishing nationally consistent training outcomes.

Other outcomes as agreed by NPMC include:

- development of succession plans to expand personnel experience across all levels of response;
- national exercises to be rotated between jurisdictions and held more frequently;
- enhancements to the Oil Spill Response Atlas and cost recovery arrangements;
- development of an incident management framework for salvage incidents;
- development of formal arrangements with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to provide scientific advisory services to the National Plan; and
- development of a national oiled wildlife capability and upgraded oiled wildlife resources within the National Plan equipment stockpiles.

The National Plan Management Committee believes that the implementation of these changes will ensure Australia's capability to respond to maritime casualties and pollution incidents will remain effective in the future. NPMC has indicated that the successful implementation of the Review's outcomes will involve considerable effort by AMSA and all the National Plan/NMERA stakeholders over the next 12-18 months. This will remain a key challenge for all concerned.

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<sup>1</sup>[www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_plan/Reports-Fact\\_Sheets-Brochures/index.asp](http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Reports-Fact_Sheets-Brochures/index.asp)

## 2. BACKGROUND TO THE REVIEW

### Overview of the National Plan

The National Plan was established in 1973 as a national integrated Government and industry organisational framework enabling an effective response to marine pollution incidents. AMSA manages the National Plan, working with State/NT governments and the shipping, oil, exploration and chemical industries, emergency services and fire brigades to maximize Australia's marine pollution response capability. Attachment A provides a timeline of events summarising the evolution of the National Plan.

The National Plan provides a national framework for responding promptly and efficiently to marine pollution incidents by designating competent national and local authorities, and maintaining:

- the National Marine Oil and Chemical Spill Contingency Plans;
- detailed State/NT, local and industry contingency plans;
- an adequate level of strategically positioned response equipment; and
- a comprehensive national training program, including conducting regular exercises.

The National Plan framework and operation is not prescribed in legislation, although the following legislation is relevant:

- the *Protection of the Sea (Shipping Levy) Act 1981* and the *Protection of the Sea (Shipping Levy Collection) Act 1981* apply the levy to fund the National Plan (see Section 10 below); and
- *Australian Maritime Safety Authority Act 1990* (the AMSA Act) provides that one of the functions of AMSA is to:

*“combat pollution in the marine environment.”<sup>2</sup>*

### Division of Responsibility

The responsibilities of National Plan participants are clearly defined in the Inter-Governmental Agreement on the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (National Plan IGA).<sup>3</sup> The National Plan IGA provides the basis for:

- access to equipment and dispersant stockpiles;
- equipment maintenance and storage; and
- funding and joint use of resources.

State/NT, local and industry contingency plans support the National Plan arrangements. Each State/NT has a National Plan State Committee, chaired by a senior member of the State/NT marine or environmental authority.

Responsibility for responding to marine spills is set out in the National Plan IGA, and may be summarised as follows:

- **at oil or chemical terminals, oil exploration rigs, platforms and pipelines:**  
the relevant oil or chemical company, with assistance from Government agencies, as required;
- **in ports (other than terminals) and within the three nautical mile coastal waters limit:**  
the responsible State/NT authority through the National Plan State Committee, with assistance from AMSA as required;

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<sup>2</sup>Paragraph 6(1)(a)

<sup>3</sup>[www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_plan/Inter\\_Governmental\\_Agreement.asp](http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Inter_Governmental_Agreement.asp)

- **beyond the three nautical mile coastal waters limit:**  
the Commonwealth through AMSA, except in incidents when oil is likely to come ashore. In such circumstances, the State/NT, through the National Plan State Committee, will be the combat authority for protecting the coastline, while AMSA assumes responsibility for ship operational matters such as salvage; and
- **in the Great Barrier Reef:**  
the Queensland Government through the National Plan State Committee, with assistance from AMSA as required.

### Management structure

NPMC provides strategic oversight of the National Plan, including setting of broad policy directions, oversight of formal arrangements between stakeholders and provides advice to the Australian Transport Council<sup>4</sup> (ATC) on the collection and distribution of funds for the National Plan.

The National Plan Operations Group (NPOG) supports NPMC by addressing operational aspects of the National Plan, such as equipment, training, contingency planning and exercises. NPOG has established three working groups to attend to specific issues on oil, chemicals and the environment.

### Levels of Response

The National Plan employs a tiered response model for contingency planning, a concept employed widely across the emergency management field. Each response tier links credible spill scenarios with attainable scales of response and inter-agency/governmental arrangements. In practice, this planning approach provides the basis for the escalation of a response in terms of resource requirements and likely or actual environmental impact.

The National Plan's three levels of tiered oil spill response are based on the following spill scenarios:

- **Tier 1 - up to 10 tonnes**
  - a small spill requiring a local response. The combat agency will generally be able to respond to and clean up a spill utilising local resources. In cases where additional resources are required, these will generally be available from the local port authority, or by utilising National Plan resources in the region, or from adjacent industry operators under mutual aid arrangements.
- **Tier 2 - between 10 and 1000 tonnes**
  - a medium spill requiring regional and/or national assistance. The resources of the combat agency will need to be supplemented by other resources from intrastate and possibly interstate. Interstate resources will be facilitated through AMSA.
- **Tier 3 - above 1000 tonnes**
  - a large spill requiring national assistance. The combat agency will require local, regional, national and possibly international assistance. Interstate and international resources will be facilitated by AMSA.

During a major oil spill Australia can call upon overseas assistance from the Oil Spill Response Limited stockpiles at Singapore or Southampton, United Kingdom.

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<sup>4</sup>The Standing Council on Transport and Infrastructure from February 2011.

## Training

Regular training programs and exercise are conducted for personnel likely to be involved in a spill response. Training courses are run by AMSA, the States/NT and industry. AMSA currently conducts courses covering the following roles in the oil spill response structure:

- Incident Management Team;
- Incident Controllers;
- Planning Officers;
- Operations Officers; and
- Logistics.

During 2010/11, a total of 575 personnel from Commonwealth, State/NT Governments and industry completed some form of National Plan training arranged under the auspices of AMSA. A further 373 received some form of training under industry arrangements.

## National Plan Equipment Stockpiles

The National Plan has nine major stockpiles of oil spill response equipment and dispersant strategically located in Townsville, Brisbane, Sydney, Melbourne, Launceston, Port Adelaide, Fremantle, Dampier, and Darwin. This equipment and dispersant is primarily for responding to larger oil spills (Tier 2 and 3) and is complemented by first strike oil spill response equipment held at most major ports.

The stockpiles contain a range of spill response equipment including oil spill control booms of varying types and sizes, self-propelled oil recovery vessels, static oil recovery devices, sorbents and storage devices such as free standing tanks and towable storage bladders.

## Industry Response Arrangements

The Australian Marine Oil Spill Centre (AMOSC), a subsidiary of the Australian Institute of Petroleum (AIP), is an integral part of the National Plan. AMOSC, based in Geelong Victoria, provides a central stockpile of industry-owned oil spill response equipment. In an oil spill response AMOSC has, in addition to its own staff, access to personnel from a number of major oil, gas and shipping companies. AMOSC also coordinates the industry's mutual aid arrangements.

AMOSC is financed by nine participating oil companies and other subscriber companies. These companies carry out the vast majority of the oil and gas production, offshore pipeline, terminal operations and tanker movements around the Australian coast.

## National Response Team and Support

The National Response Team (NRT) provides support to the Commonwealth, States and NT Governments in the event of a major oil pollution incident. The NRT consists of 63 appropriately trained personnel, nine from each jurisdiction, covering key oil spill response roles of planning, operations, logistics, aerial observers and response team leaders.

## Fixed Wing Aerial Dispersant Spraying

The National Plan has in place a Fixed Wing Aerial Dispersant Capability (FWADC) program for the application of oil spill dispersant.

The FWADC is supplied by Australian Maritime Resources and utilises large agricultural aircraft with a dispersant capacity of between 1850 and 3100 litres. This complements arrangements for the application of dispersant by helicopter in inshore areas. The cost of the FWADC is shared jointly between AMOSC and AMSA.



## Support Systems

A computer-based Oil Spill Trajectory Model (OSTM) is used to simulate and predict the movement of oil spills. The information provided assists decision makers on measures needed to counter the threat to the marine environment. This capability is funded by the National Plan and managed by AMSA, with services provided by Asia-Pacific Applied Science Associates, based in Queensland.

The National Plan Oil Spill Response Atlas (OSRA) is a computer-based digital mapping system that allows operators to overlay various types of data to identify biological, cultural, geomorphological and socio-economic resources that may require protection during an oil pollution incident. Data is provided by all jurisdictions and regularly updated. Overall management of OSRA is undertaken by AMSA.

## International Links

Australia was among the first countries to adopt the OPRC Convention and is a party to the OPRC-HNS Protocol. The primary purpose of these instruments is to focus the world's response capability on cooperative oil and chemical spill pollution preparedness and response to the benefit of all nations. The vast majority of Australia's obligations under the OPRC Convention are met by the National Plan.

In Australia preparedness, response and cooperation is delivered through:

- our national response arrangements and regional systems including:
  - Memorandum of Understandings with New Zealand, New Caledonia, Indonesia, and Papua New Guinea; and
  - a key role in responding and providing advice for the Pacific Islands Regional Marine Spill Contingency Plan (PACPLAN), the oil spill contingency plan for the Secretariat of the Pacific Regional Environment Program;
- facilitation of international cooperation and mutual assistance;
- information exchange;
- promotion of research and development;
- technical cooperation and training;
- oil pollution emergency plans for ships, offshore platforms and sea ports; and
- oil pollution reporting procedures.

## National Maritime Emergency Response Arrangements

On 18 November 2005, in response to the 2004 House of Representatives Standing Committee on Transport and Regional Services, Ship Salvage Inquiry into Maritime Salvage in Australian Waters (the Neville Report), the ATC<sup>5</sup> endorsed the establishment of an integrated national approach to the provision of emergency maritime response arrangements. This integrated national approach involved minimum levels of emergency towage capabilities in strategic regions around the Australian coastline and a regulatory framework to support a coordinated approach to emergency response issues. In February 2008, the ATC formalised the agreement of all jurisdictions to the Inter-Governmental Agreement (IGA) on the National Maritime Emergency Response Arrangements (NMERA).

Governments recognised the benefit of single national emergency response management role to address any shipping casualties with potential to produce significant pollution. The establishment of an integrated national approach was, and continues to be, supported by all Governments, port authorities, shipping interests and other stakeholders.

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<sup>5</sup>The Standing Council on Transport and Infrastructure from February 2011

The aim of NEMERA is to protect the marine environment from actual or potential ship-sourced pollution. This aim is achieved by ensuring the continuing provision of an appropriate level of emergency towage capability around the Australian coastline and the enhancement of the emergency response management framework, including the appointment of a single national decision maker to coordinate a response to a maritime casualty.

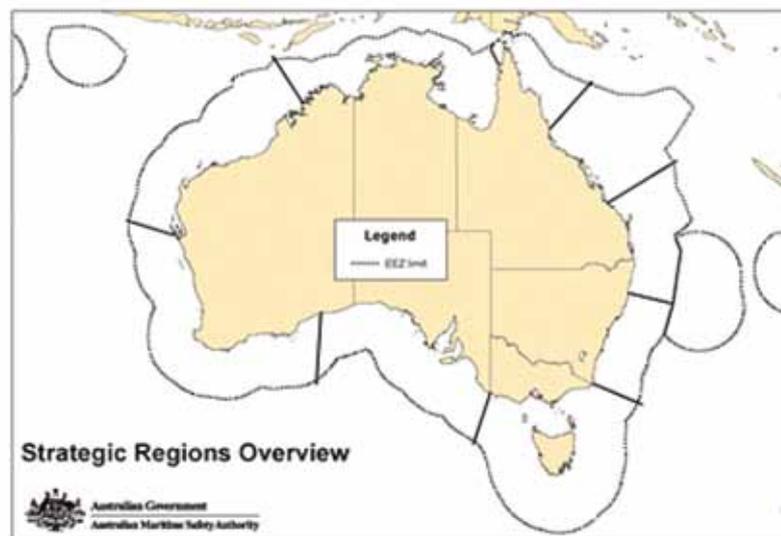
AMSA implemented the national emergency towage program in July 2006 and appointed the Maritime Emergency Response Commander (MERCOT). MERCOT is the national decision-maker responsible for coordinating and managing emergency response actions in the event a maritime casualty in Commonwealth waters that poses a significant threat of marine pollution.

### Emergency Towage Arrangements

Emergency Towage is taken to be the initial response required to assist a ship that is incapacitated and/or drifting and is in danger of grounding, sinking or suffering some other peril of the sea, so as to stabilise the situation and prevent or minimise the extent of any consequential pollution of the sea.

Under NEMERA, a number of Emergency Towage Vessels (ETVs) are located in strategic Australian coastal regions (Figure 1). ETVs provide a minimum level of emergency towage capability to deal with a significant, or potentially significant, threat to Australia's marine environment.

Figure 1: ETV strategic regions



The emergency towage capability consists of a three-tiered approach, as described below:

- **Level 1 (ETV 1)**

AMSA has contracted Australian Maritime Systems (AMS) Limited, in conjunction with Swire Pacific Offshore, to supply and operate under AMSA's direction, a dedicated 24/7 chartered ETV that provides emergency towage and first response capability in the Particularly Sensitive Sea Area (PSSA) in the Torres Strait and Great Barrier Reef area north of Cairns/Mourilyan.

The dedicated Level 1 ETV is the *Pacific Responder*, which is based out of Cairns, however the *Pacific Responder* spends the majority of time at sea, available for emergency tasking by AMSA should a maritime incident occur. The vessel is also able to respond to other marine incidents, such as pollution of the sea and search and rescue action.

This vessel is also engaged in maintenance of the aids to navigation network for approximately 100 days per year. However, the vessel's first response capability during a shipping incident, either actual or potential, will take precedence over any maintenance of aids to navigation.

- **Level 2 (ETV 2)**

The ongoing availability of emergency towage capability for the remaining areas around the Australian coastline is ensured by contracted suitable towage vessels with appropriately trained crews that normally undertake existing port or other operations. These vessels are contracted by AMSA to be on call in the event of an incident. Operators are paid by AMSA to ensure the availability of appropriate ocean-going vessels and the training of crew for emergency towage operations.

- **Level 3 (ETV 3)**

These are suitable vessels that are in the relevant area at the time of an incident that are used as “vessels of opportunity”. There is expected to be a range of vessels around the coast that would potentially be suitable for emergency towage work, such as offshore tender vessels, and these could be considered to undertake such a role if necessary to supplement, or substitute for, the Level 1 and 2 vessels according to the circumstances of each case.

### **Maritime Emergency Response Commander**

AMSA has appointed a MERCOM to act on behalf of the Australian Government during a shipping casualty. The MERCOM is responsible for the management of responses to shipping incidents in Commonwealth waters, with intervention powers to take such measures as may be necessary to prevent, mitigate or eliminate a risk of significant pollution, including the power to direct a port to release a tug to provide emergency assistance to a vessel at risk or designate a place of refuge for a ship in an emergency situation that presents a risk of significant pollution.

The MERCOM has appropriate statutory powers to enable effective decision-making consistent with the aims of the NEMRA. The MERCOM endeavours 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.

MERCOC manages AMSA's responsibilities under the National Plan and manages the national emergency towage program.

Incidents requiring the intervention of MERCOC may occur randomly and infrequently, and will be in response to actual or potentially serious emergencies. MERCOC's intervention, therefore, will be for incidents where there is actual or a threat of significant pollution posed by a ship.

State and NT Governments retain powers to deal with lesser threats of pollution or other environmental damage within their respective jurisdictions, to the extent that they are available, and may still exercise powers independently. However, MERCOC is able to intervene and exercise his/her intervention powers if, in MERCOC's opinion, such action is needed to fully address the threat in question. MERCOC's directions prevail over any other direction where any inconsistency may occur.

At the time of preparing this report, the appointed MERCOC is Mr Toby Stone, General Manager, Marine Environment Division, AMSA. The following AMSA officers can act as MERCOC:

- Mick Kinley, Deputy Chief Executive Officer;
- John Young, General Manager, Emergency Response Division;
- Alan Schwartz, General Manager, Ship Safety Division; and
- Brad Groves, General Manager, Navigation Safety and International Division.

## The Need for the Review

A Review of the National Plan was previously undertaken in 1999, and at that time it was agreed that the National Plan should be reviewed after 10 years.

### Incidents since the previous Review

Since the 1999 Review was completed a number of incidents have occurred within Australia including:

Date	Source of Spill	Location	Spill volume
28/06/1999	Mobil Refinery	Port Stanvac, SA	230 tonnes
26/07/1999	<i>MV Torungen</i>	Varanus Island, WA	25 tonnes
03/08/1999	<i>Laura D'Amato</i>	Sydney, NSW	250 tonnes
18/12/1999	<i>Sylvan Arrow</i>	Wilson's Promontory, VIC	<2 tonnes
02/09/2001	<i>Pax Phoenix</i>	Holbourne Island, QLD	<1 tonne
25/12/2002	<i>Pacific Quest</i>	Border Island, QLD	Volumetric estimate unavailable but >70 km slick reported
24/01/2006	<i>Global Peace</i>	Gladstone, QLD	25 tonnes
08/06/2007	<i>Pasha Bulker</i>	Newcastle, NSW	Nil spill volume. Significant bunkers and lubricant oil held onboard posing a threat during vessel salvage
11/03/2009	<i>Pacific Adventurer</i>	Moreton Island, QLD	270 tonnes
21/08/2009	<i>Montara Wellhead</i>	NW Australian coast	~4,750 tonnes
03/04/2010	<i>Shen Neng 1</i>	near Great Keppel Island, QLD	4 tonnes

The National Plan and its associated policies are continuously updated to meet the needs of Australia in responding to pollution incidents. Each incident has provided opportunities to implement improvement by gaining understanding of operational shortcomings through a series of debriefs and incident analyses.

The *Pacific Adventurer* and *Montara Wellhead* incidents in 2009 were particularly noteworthy as both incidents involved a level of response that had not previously been required in the then-36 year history of the National Plan.

The *Pacific Adventurer* incident in March 2009 resulted in oil impacting significant portions of the south-east Queensland coast, with clean-up operations continuing for two months. A total of about 2,500 people were deployed for the entire clean-up. AMSA personnel, 72 members of the NRT from all States/NT, the oil industry and contractors provided assistance during the period. At the height of the response operation some 400 response personnel were working on Moreton Island each day. An analysis of the response to the *Pacific Adventurer* was undertaken<sup>6</sup>, and several recommendations arising from this analysis were taken into consideration during the current Review.



<sup>6</sup>[www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_plan/Incident\\_and\\_Exercise\\_Reports/index.asp](http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Incident_and_Exercise_Reports/index.asp)

Less than four months after the completion of the *Pacific Adventurer* response, the Montara Wellhead mobile drilling unit located 122 nautical miles offshore from the northwest Australian coast, had an uncontrolled release of hydrocarbons from one of the platform wells. Consequently oil escaped to the surface and gaseous hydrocarbons escaped into the atmosphere. Initial estimates provided by the operator were that 64 tons per day (400 barrels) of crude oil were being lost. A subsequent estimate by the operator indicated a total of approximately 4,750 tonnes of crude oil was discharged. The uncontrolled release continued until 3 November 2009 and response operations continued until the well was capped on 3 December 2009 - a response period of 105 days.

In November 2009, a Commission of Inquiry was established by the Australian Government to report on the Montara incident and subsequent events, including consideration of the adequacy of the response. The Report and draft Commonwealth response were released by the Minister for Resources and Energy on 24 November 2010<sup>7</sup>. The final Australian Government response was released by the Minister on 25 May 2011. The Report's Executive Summary includes commentary on the adequacy of the response. The section dealing with the actions of AMSA notes that the overall response objective of protecting sensitive marine resources was largely achieved, and that "AMSA responded exceptionally well to an incident that was beyond its first-hand experience and in a remote and difficult location. AMSA should be commended." Chapter 6 of the Inquiry's Report entitled "Environmental Response" is of most relevance to AMSA and the National Plan. This chapter included twelve findings and fifteen recommendations, with implementation of seven findings and thirteen recommendations requiring some level of AMSA/National Plan involvement, either directly or by providing input to other agencies.

An analysis of the response to the Montara oil spill was also undertaken under the auspices of the National Plan<sup>8</sup>, and several of the recommendations arising from this analysis were taken into consideration during the current Review.

### Establishment of the 2011 Review

Taking into account the incidents that had occurred during the 10-year period since the previous Review, NPMC initiated the Review of Australia's National Plan and NEMRA. As a review of the NEMRA arrangements was required in accordance with the NEMRA IGA, it was therefore timely to include this as part of the overall project.

NPMC also recognised the significant changes to the operating environment for National Plan agencies since the previous Review, including *inter alia*:

- changes in shipping patterns and associated risks as a result of expansion of the petroleum, Liquefied Natural Gas (LNG) and minerals sectors;
- ongoing port privatisation and rationalisation of the workforce resulting in a reduction of the workforce within the ports sector (a major source of oil spill response personnel) and ageing of the workforce in that sector as well as a more general loss of experienced oil spill personnel from government and industry, with impacts upon the National Response Team (NRT);
- changes in response management systems, including a trend towards the all hazards/all agencies model of emergency planning and management, and adoption of the Australian Inter-Service Incident Management System (AIIMS) by emergency response agencies;
- new incident response management technologies;
- entry into force for Australia of the OPRC-HNS Protocol in June 2007 and implementation of response systems to meet the Protocol's requirements;
- changes in the aviation industry (in particular availability of suitable pilots and aircraft) and the potential impact on Australia's ability to maintain a cost-effective aerial dispersant spraying capability;

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<sup>7</sup>[www.ret.gov.au/Department/responses/montara/cwlth-response/Pages/cwlth-response.aspx](http://www.ret.gov.au/Department/responses/montara/cwlth-response/Pages/cwlth-response.aspx)

<sup>8</sup>[www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_plan/Incident\\_and\\_Exercise\\_Reports/index.asp](http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Incident_and_Exercise_Reports/index.asp)

- amendments to Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL) which may result in marine diesel oil, marine gas oil and LNG replacing heavy fuel oil as the primary bunker fuel used by ships by 2020, with progressive phasing out to commence in 2012;
- an increase in offshore oil and gas ship-to-ship transfer operations, particularly in remote locations;
- quality of ships including factors such as crew competency;
- modernising training practices to meet national guidelines and achieve best practice, i.e. qualification and competency based; and
- increasing activity in the offshore petroleum and gas exploration and production industry in remote locations and in deep water.

NPMC agreed that tenders would be called for two projects:

- **Project 1:** an assessment of the risk of pollution from marine oil spills in Australian ports and waters; and
- **Project 2:** an analysis to determine if current arrangements are adequate to provide an effective response to pollution of the sea by oil and Hazardous and Noxious Substances (HNS), and where deficiencies are identified, make recommendations to rectify them. The project also encompassed the adequacy of the National Maritime Emergency Response Arrangements.

Following a selection process, a contract for the assessment of risk was awarded to Det Norske Veritas (DNV). A contract for the analysis, referred to as the National Plan/NMERA Review, was awarded to a combined team from Parsons Brinckerhoff and Thompson Clarke Shipping (PB/TCS).

The terms of reference for these projects are provided at Attachments B and C, respectively.

A Strategic Stakeholder Group (SSG) was established to provide the key steering/reference group for both projects. The terms of reference of the SSG, including membership, are provided in Attachment D.

The SSG met several times during the review period to provide input on:

- the draft report of the Assessment of Risk, in particular to ensure that all risks were appropriately represented and local knowledge was taken into account;
- the stakeholder consultation outcomes, in particular to ensure that the stakeholder input was appropriately balanced and relevant in the national context; and
- any issues identified by the consultants.

## 3. PROJECTS CONDUCTED DURING THE REVIEW

### Project 1: Risk Assessment

#### Previous risk assessment

During the 1990s, the assessment of the risk of marine oil spills in Australia was based primarily on a 1991 Bureau of Transport and Communications Economics study<sup>9</sup>. This study covered risks of spills from oil tankers, platforms and pipelines and gave results that were acknowledged at the time as potentially pessimistic.

A further risk assessment was undertaken as part of a Review of the National Plan in 2000<sup>10</sup>. The outcomes indicated there were some key areas of relatively high risk around the coast: most of the east coast of Queensland, the southwest and northwest areas of Western Australia; and the major port areas around Sydney and Melbourne. The distribution of risks between ships at sea, ports and offshore facilities indicated that ports were the major overall contributor to risk levels, as the density of ships and the frequency of operations associated with a spill risk were highest in and around ports. Ships at sea contributed to risks around the entire coast, but at relatively low levels in any specific location due to the low density of ships throughout Australian waters.

The risk assessment was conducted by DNV, and the results of that risk assessment were generally in agreement with previous studies and have provided the basis for management, policy and decision making arrangements of the National Plan to date.

#### 2011 Risk Assessment

The first consultancy project commissioned as part of the 2011/12 Review was a risk assessment to determine the likely risk profile around the coast of pollution of the sea by discharges of oil from ships. The SSG commissioned DNV to review and report by location on the level of risk of pollution of the sea, coastline and ports of Australia by oil taking into account *inter alia*:

- environmental sensitivity;
- industries (e.g. fishing, tourism) which would be most adversely affected ecologically or financially by a spill;
- commercial cargo shipping size, frequency, trading patterns and amounts of oil carried as bunker fuel;
- tanker frequency, sizes, shipping patterns and quantities of oil shipped;
- properties of oil shipped as cargo;
- type, density and movement of shipping including concentration of fishing vessels and tourist vessels;
- areas that pose a high level of difficulty to safe navigation;
- changes in the operation and construction of ships arising from the introduction of double hulls, amendments to the International Convention for the Prevention of Pollution from Ships (MARPOL), introduction of the International Safety Management Code, etc.;
- amount and properties of oil produced offshore and transported by pipeline;
- location of offshore production and pipeline facilities;
- extent of offshore exploration drilling; and
- future trends, including proposed new ports and projected changes to trading patterns.

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<sup>9</sup>Major Marine Oil Spills – Risk and Response – Report 70, [www.bitre.gov.au/publications/68/Files/R070.pdf](http://www.bitre.gov.au/publications/68/Files/R070.pdf)

<sup>10</sup>See Attachment C, [www.amsa.gov.au/Publications/Marine\\_Environment\\_Protection/Report\\_of\\_the\\_2000\\_Review.pdf](http://www.amsa.gov.au/Publications/Marine_Environment_Protection/Report_of_the_2000_Review.pdf)

To undertake the risk assessment, DNV divided the Australian Exclusive Economic Zone (EEZ) into 120 sub-regions. The environmental sensitivity of each sub region was calculated using a range of environmental data including the National Plan's OSRA database, which provided much of this data. Shipping densities and ship type and size distributions in each sub-region were calculated from AMSA's Australian Ship Reporting (AUSREP) data. Oil spill frequencies for ships and offshore installations were obtained from recent world-wide accident data, and validated against Australian data. Characteristic oil spill size distributions for ships and offshore installations were obtained from actual oil spill experience world-wide.

The probabilities of oil spills at sea impacting on the coastline are estimated by using models, which depend on the oil type, the spill size and location, and the weather conditions. The overall spill risk is determined using a spread sheet calculation, and displayed using the ArcMap Geographical Information System (GIS).

It is important to note that the risk assessment model takes into account maritime safety measures that significantly affect oil spill risks, including:

- requirements for new vessels to have double hull protection around fuel tanks;
- traffic separation schemes;
- Vessel Traffic Service (VTS) areas;
- compulsory pilotage areas; and
- Emergency Towage Vessels (ETV).

With regard to this last point, the model reflects assumed mobilisation times, transit speeds and tow connection times for the main tug types, and takes into account areas where a drifting and immobilised vessel is and is not able to anchor to avoid grounding.

DNV was also requested to estimate the risks for 2020. With offshore drilling assumed to remain at the current level of activity the modelling predicted the following major changes:

- 79 per cent growth in national port traffic by 2020;
- 81 per cent growth in total national traffic at sea by 2020; and
- offshore oil production would reduce by 89 per cent by 2020, while condensate production would increase by 73 per cent, giving an overall decline of 35 per cent in offshore production.

### Oil Spill Risk

In terms of sources of pure oil spill risk (that is, expected annual quantities of oil spilled without considering environmental sensitivity), the table below combines tables 3.3 and 4.2 from the DNV Risk Assessment to show the relative levels of risks from the various sectors in both 2011 and 2020.

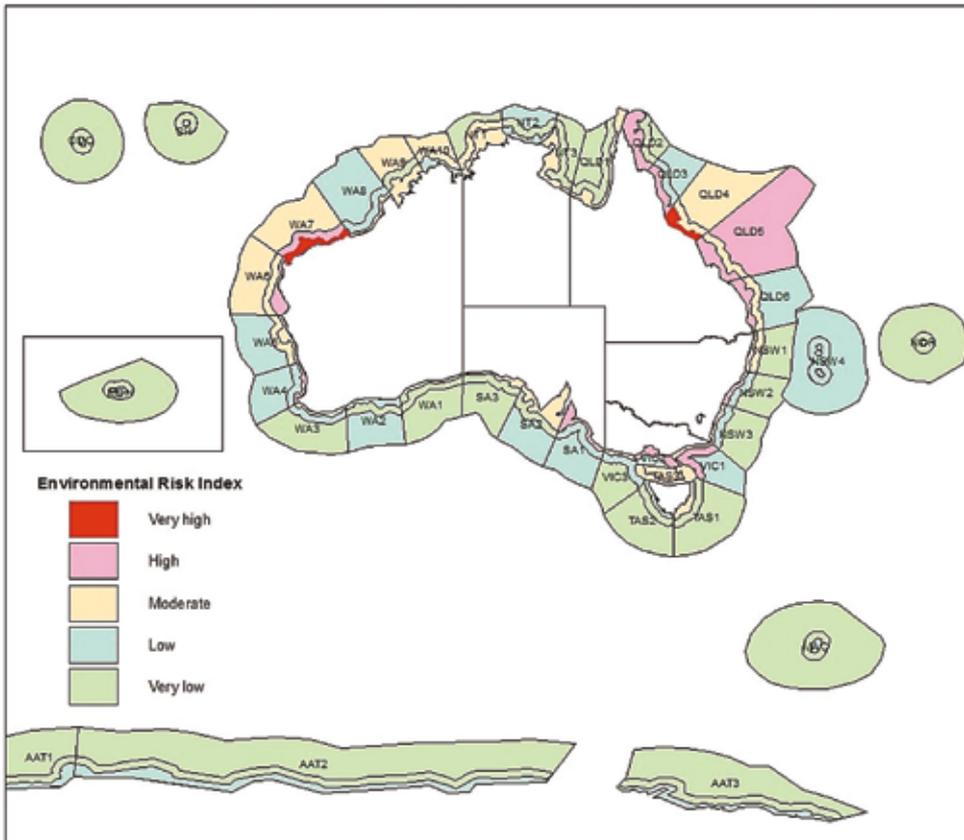
Source	2011		2020	
	Tonnes/year	%	Tonnes/year	%
Trading ships at sea	212	22.3	387	32.2
Trading ships in port	174	18.3	337	28.1
Small commercial vessels	2	0.2	2	0.2
Offshore production	310	32.7	217	18.1
Offshore drilling	209	22.0	209	17.4
Shore-based	42	4.5	48	4.0
<b>Totals</b>	<b>948</b>	<b>100.0%</b>	<b>1200</b>	<b>100.0%</b>

## Environmental Risk Index

Overall results for the level of risk in 2011<sup>11</sup> indicate that the highest risk areas<sup>12</sup> are sub-regions that combine high shipping activity with high environmental sensitivity. There are two areas of very high environmental risk:

- a sub-region on the central Queensland coast around Hay Point; and
- a sub-region in north-west Western Australia (WA) in the vicinity of Dampier and Port Hedland.

The figure below, from the DNV Risk Assessment, shows these areas in red.



The following table from the DNV Risk Assessment sets out the overall environmental risk index (ERI) expressed in terms of expected cost in Australian dollars for each source of pollution for 2011.

Source	ERI (million A\$ per year)	%
Trading ships at sea	2.6	29.1%
Trading ships in port	4.5	49.7%
Small commercial vessels	0.1	1.2%
Offshore production	0.6	6.2%
Offshore drilling	0.2	2.3%
Shore-based	1.1	11.5%
<b>Total</b>	<b>9.1</b>	<b>100.0%</b>

<sup>11</sup>i.e. taking into account spill frequencies and environmental sensitivity

<sup>12</sup>Referred to as “Environmental Risk Index” in the DNV Risk Assessment

In terms of highest risk regions, the new study indicates a number of changes from the previous risk assessment. Increased risk has been identified in:

- northern Queensland;
- central and eastern Victoria;
- eastern South Australia;
- the north west of Western Australia;
- the Northern Territory; and
- Australia's offshore areas.

The overall environmental risk index for each source of pollution for 2020 from the DNV Risk Assessment is given in the table below.

Source	ERI (million A\$ per year)	% of 2020	% Increase from 2010
Trading ships at sea	5.0	28.3%	91%
Trading ships in port	10.9	60.9%	141%
Small commercial vessels	0.1	0.6%	7%
Offshore production	0.4	2.3%	-28%
Offshore drilling	0.2	1.2%	0%
Shore-based	1.2	6.7%	14%
<b>Total</b>	<b>17</b>	<b>100.0%</b>	<b>96%</b>

The model predicts the environmental risk index for trading ships at sea is expected to increase by 91 per cent from 2010 by 2020 whilst risk attributed by ships in ports will increase by 141 per cent.

The full report of this project is available on the AMSA web site at [www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_plan/Reports-Fact\\_Sheets-Brochures/DNVReport.asp](http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Reports-Fact_Sheets-Brochures/DNVReport.asp).

## Project 2: The National Plan/NMERA Review

The purpose of the National Plan/NMERA Review project awarded to PB/TCS was to determine the adequacy of current arrangements to provide an effective response to marine casualties and pollution of the sea by oil and HNS, and where deficiencies were identified, to make recommendations to rectify them. The Review also sought to consider potential improvements that may be appropriate over the next 10 years.

The main objectives of the PB/TCS Review was to assess how well Australia meets its obligations under the OPRC 90 Convention/OPRC-HNS Protocol and whether the NMERA arrangements continue to meet Government and stakeholder expectations. In making this assessment the following issues were considered:

- adequacy of the Inter-Governmental Agreements;
- adequacy of the existing domestic legal, regulatory, governance and procedural regime and the management and committee arrangements giving effect to the National Plan and NMERA;
- suitability and adequacy of the NMERA as a risk reduction strategy;
- effectiveness of current functions and resourcing levels to deliver on required outputs and services;

- capacity to respond to the previously identified marine oil spill benchmark (holing of two holds on an oil tanker with a release of 21,000 tonnes of oil) and appropriateness of that benchmark;
- appropriateness of current hardware/equipment holdings and locations;
- succession planning and training arrangements;
- adequacy and appropriateness of funding mechanisms to deliver the required outcomes;
- efficiency of cost recovery arrangements; and
- if the current arrangements for a 10 yearly review of the National Plan remain appropriate.

The secondary objective of the Review was to suggest any changes that may be necessary to the National Plan both in the immediate future and over the next 10 years taking into account:

- ship standards, predicted increases in ship traffic, port developments and offshore developments in Australian waters;
- the implications of changes to international regulations and standards which will, for example, require bunker tanks to be built in protected locations, a move to cleaner burning fuels and improved navigational equipment on board ships;
- the resource and response constraints associated with the increasingly remote production and transshipment locations; and
- the restrictions and constraints posed by the increasing numbers of marine conservation and preservation areas, particularly in remote locations.

The PB/TCS Report project included a comprehensive background literature review and analysis, and an extensive stakeholder consultation program. Over 90 stakeholders from Australia and overseas were contacted by the consultants, including representatives from:

- Commonwealth and State Government authorities;
- the shipping industry;
- the offshore petroleum industry;
- port authorities and harbour masters;
- emergency towage/salvage contractors;
- oil spill response service providers;
- non-government organisations;
- wildlife response agencies; and
- associated service providers.

Overall PB/TCS found that despite the many challenges facing AMSA and the other public and private organisations involved in oil spill preparedness and response, the National Plan and NEMRA have served Australia well over the last ten years.

Nevertheless, concerns regarding the current and future management and implementation of the National Plan and NEMRA were raised, as well as potential areas for improvement.

The PB/TCS Report formed the basis of SSG/NPMC's consideration of these issues and subsequent recommendations.

## 4. MANAGEMENT OF THE NATIONAL PLAN

### Inter-Governmental Agreements

#### Background - National Plan Inter-Governmental Agreement

PB/TCS noted that a number of key elements were identified in the last Review, by ACIL Consulting, as requiring development under the National Plan IGA. These included:

- establishment of the NPMC and NPOG;
- coordination of local administration and operation of the National Plan through the statutory agency in each State/NT;
- continued management of the National Plan by AMSA;
- development of a MoU between AMSA and the AIP; and
- a description of funding principles.

PB/TCS also noted that a number of these elements have been substantially progressed since adoption of the National Plan IGA. However, PB/TCS identified a number of gaps in the implementation of these elements that require clarification and/or amendment to enable National Plan stakeholders to be able to continue to meet their obligations. These gaps related primarily to clarification of roles and responsibilities.

#### Background - NMEMA Inter-Governmental Agreement

PB/TCS found that there is generally a very low level of understanding of the NMEMA amongst stakeholders. Since introduction of the NMEMA in 2006, there has been significant staff turnover within AMSA and NMEMA stakeholders. This appears to have had an impact on the understanding of the NMEMA.

The NMEMA is a critical part of Australia's pollution prevention and response arrangements. The prevention and response arrangements in Australia require a high level of cooperation and understanding between the Commonwealth and the States/NT. PB/TCS concluded that NMEMA will not work effectively if stakeholders do not have an understanding of, and commitment to, the arrangements.

While Section 5.3 of the NMEMA IGA sets out the requirements of a consultative framework, it was not apparent to PB/TCS that this framework had been put in place. PB/TCS considered that had it been in place, as outlined by the NMEMA IGA, it is likely that the apparent low level of NMEMA understanding by stakeholders would not have occurred.

PB/TCS also considered that there should be a commitment that ensures stakeholders are kept abreast of on-going NMEMA issues and developments.

#### NPMC consideration

NPMC supported the retention of an IGA to provide for clarity of responsibilities between the Commonwealth and States/Northern Territory and expectations of other stakeholders whilst noting that industry groups cannot be direct parties to the IGA. NPMC agreed that a new IGA would be developed that would encompass both the National Plan and NMEMA arrangements as part of a single agreement. The new IGA would focus on strategic management issues and formalise the governance arrangements. In negotiating the new IGA, the jurisdictions should further take into account the relevant outcomes in this Report. The outcome would be a single modern IGA that provides a mechanism for accountability and assignment of responsibilities. NPMC also emphasised the need to take into account Recommendation 86 of the Montara Commission of Inquiry, which emphasised the need to clarify roles and responsibilities. NPMC agreed that AMSA and the Department of Infrastructure and Transport would prepare an initial draft of a new IGA.

## Outcome 1

**A new Inter-Governmental Agreement will be developed that will encompass both the National Plan and NNERA.**

## National Plan/NNERA Governance and Management

### Background

The roles of the key stakeholders are generally described in the National Plan IGA and MoUs, however PB/TCS reported that most of the stakeholders consulted during the Review noted a lack of clarity regarding their roles and responsibilities, particularly across response phases, and where the response to an incident needs to be escalated. The reasons for this perceived lack of clarity appeared to relate to a combination of factors, including:

- infrequent or inadequate communication of roles and responsibilities by AMSA and key State/NT agencies;
- lack of understanding by individuals;
- poor definition of individual roles within organisations;
- inadequate succession planning and education; and
- lack of clarity across response phases and State/Commonwealth boundaries.

PB/TCS considered that this perceived lack of clarity is a serious issue that needs to be addressed as a high priority.

The need to increase the effectiveness of the NPMC and NPOG was a key issue raised by numerous stakeholders. While some stakeholders noted that the roles of these support groups are adequately defined in the National Plan IGA, most were of the opinion that the NPMC and NPOG have not, in practice, been engaged by AMSA in accordance with their defined roles or that there have been various impediments which have reduced the ability of the NPMC and NPOG to engage at an effective strategic level.

Perceived deficiencies reported to PB/TCS by stakeholders in relation to the functioning of the NPMC included the lack of opportunities for it to:

- provide strategic oversight of the National Plan;
- seek wider input from government and all industry stakeholders;
- provide feedback to government and industry stakeholders;
- develop and manage National Plan budgets;
- hold more frequent meetings (currently one meeting per year); and
- include all of the key government and industry stakeholders as members.

It is important to note, however, that the NPMC is dependent on AMSA for guidance, and support, and despite the best efforts of individual NPMC members to be more effectively engaged, there was little they could do in relation to most of these issues. PB/TCS highlighted a need to review the relevant clauses of the National Plan IGA, particularly Article 3, and make appropriate amendments to it so as to re-confirm and establish the NPMC responsibilities and functions as specified in the National Plan IGA.

The NPMC was previously required to provide advice on the strategic, policy making and funding direction of the National Plan to the ATC and to be accountable for the strategic aspects of the National Plan. As NNERA forms a significant component of the arrangements, is administered from the same

Division within AMSA, and is also funded from the same Protection of the Sea Levy (PSL), PB/TCS agreed with the view of many stakeholders that NEMERA should not be considered to operate in parallel to the National Plan, but rather should be integrated with the National Plan. This would extend to reporting NEMERA progress on finances to the NPMC and contributing to National Plan annual reporting.

Deficiencies identified in relation to the current NPOG included the concern that it lacked focus, and was too cumbersome and bureaucratic; it had no clear work plan, no set goals and no clear accountabilities; and there were too many inexperienced and junior attendees.

### **NPMC consideration**

NPMC agreed that the new arrangements would need to consider:

- a clear reporting line to the Standing Council on Transport and Infrastructure;
- an effective strategic decision making capability and accountability at senior levels;
- an increased number of stakeholders to the arrangement - i.e. salvage and towage, Hazardous Materials (HAZMAT) and oil spill response; and
- effective communication of responsibilities of National Plan stakeholders and the relevant decisions of the various Committees.

NPMC agreed that the new arrangements would comprise the following:

- **National Plan Strategic Coordination Committee (NPSCC)**  
Responsible for the strategic coordination of the National Plan. Membership would comprise the parties to the IGA, with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), Great Barrier Reef Marine Park Authority (GBRMPA), Chair of the National Plan Strategic Industry Forum, Department of Resources, Energy and Transport (RET) and New Zealand having observer status. NPSCC will have responsibility for developing and implementing clear policy for the National Plan;
- **National Plan Strategic Industry Advisory Forum (NPSIAF)**  
Responsible for providing industry-focused advice to the NPSCC on strategic issues; and
- **Commonwealth/State/NT Committees**  
To coordinate arrangements within the jurisdiction and provide whole-of-Government input to the National arrangements.

A diagram showing the new arrangements is at Attachment E. NPMC agreed that meetings of the NPSCC and NPSIAF would be held back-to-back to reduce separation between the groups, and that AMSA would chair all technical groups to foster continuity between groups. AMSA would provide secretariat services for NPSCC and NPSIAF and the technical groups. The positions of deputy Chair for the technical groups would be held by a State/NT representative on a rotational basis.

#### **Outcome 2**

**Establish a single governance and management structure for the National Plan and NNERA.**

#### **Outcome 3**

**Integrate the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances and the National Maritime Emergency Response Arrangements.**

#### **Outcome 4**

**NPSCC to prepare an annual report for the Standing Council on Transport and Infrastructure on the status of National Plan preparedness across all jurisdictions and sectors. The Report would make reference to the application of the Protection of the Sea Levy, as reported within AMSA's financial statements.**

## **International Conventions**

### **Background**

PB/TCS considered that AMSA should raise the profile of the OPRC 90 and OPRC-HNS Protocol within the pollution response constituency, and ensure that this Convention and Protocol receive prominence in the National Plan IGA and Contingency Plan.

#### **Outcome 5**

**The new National Plan IGA to formally reference the OPRC Convention and HNS Protocol and clearly identify AMSA as the Competent National Authority for the purpose of both instruments.**

## **National Plan Legislation**

### **Background**

The OPRC 90 Convention is the primary International Maritime Organization (IMO) Convention that deals with marine pollution preparedness and response. While Australia has ratified the OPRC 90 Convention and is meeting its OPRC obligations by having a National Plan, there is no Australian statute that makes this important convention a legislative requirement.

PB/TCS noted that while the AMSA Act has an objective to protect the marine environment from pollution and other environmental damage caused by shipping, there is no guidance in the AMSA Act as to how these activities should be carried out. PB/TCS expressed the view that the AMSA Act should include a provision requiring AMSA's marine pollution preparedness and response activities to be carried out in a manner that is consistent with Australia's commitment and obligations under the OPRC 90 and OPRC-HNS Protocol.

International legislation, e.g. European, implementing the OPRC 90 Convention, is generally focused on setting out marine pollution preparedness and response requirements for facilities such as ports, refineries and offshore petroleum facilities. In the UK there is a direct reference to the OPRC 90 Convention in the primary and secondary legislation dictating contingency planning requirements for high risk ports and harbours.

In Australia the *Offshore Petroleum and Greenhouse Gas Storage Regulations* contain a clear requirement for offshore petroleum operator to maintain an effective oil spill contingency plan and supporting response arrangements. Ships are required by the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* to maintain oil pollution emergency plans. Legislation applicable to ports and harbours generally falls within the scope of State/NT planning and/or emergency response legislation or similar arrangements.

### **NPMC consideration**

NPMC considered that the PB/TCS Report had not identified an immediate compelling need to amend the AMSA Act, or develop new legislation, to implement the OPRC Convention and HNS Protocol. It was also noted that recommendation 1 of the *Pacific Adventurer Strategic Issues Report* similarly suggested the need for consideration of a legal mandate for the National Plan.

If shortcomings are identified in the future NPSCC should consider the introduction of legislation or agreements to mandate the OPRC Convention for facilities, excluding offshore petroleum.

#### **Outcome 6**

**All jurisdictions to conduct an audit of their Tier 1, 2 and 3 response capability and report to NPSCC to determine if there is benefit in legislative action by the Commonwealth and/or States/NT.**

## 5. DISASTER AND EMERGENCY MANAGEMENT

### Disaster Management Arrangements

#### Background

During the Review it became apparent to PB/TCS that an increasing number of the State/NT parties to the National Plan IGA were becoming aligned to their domestic emergency management arrangements during a spill response.

#### NPMC consideration

NPMC agreed that the National Plan can no longer be considered a standalone response arrangement and needs to adopt the 'all hazards, all agencies' approach utilised within Commonwealth and State/NT emergency management arrangements. NPMC noted that this issue was also highlighted in Recommendation 2 of the Strategic Issues Report – Response to the *Pacific Adventurer* incident.

#### Outcome 7

**The new IGA to clearly recognise the 'all hazards, all agencies' approach to disaster and emergency management arrangements and the National Plan's engagement with these arrangements to be clearly defined.**

NPMC recommends that the NPSCC should consider whether the National Plan should include the concept of a Spill of National Significance (SONS). The declaration of a SONS would be acknowledgement that an incident requires national coordination and possible Government intervention, particularly in the case of a company managed response to an incident. A SONS would be an incident on a scale consistent with the declaration of a State of Disaster or Emergency under State/NT legislation, but would also address the coordination of incidents crossing State/NT or international boundaries. This issue should be further considered by NPSCC as part of its considerations regarding National Plan legislation.

#### Outcome 8

**NPSCC to consider whether the National Plan should include the concept of a Spill of National Significance.**

### Incident Management

#### Background

The PB/TCS Review considered the application and adoption of the Australasian Inter-Service Incident Management System (AIIMS) as the standard Incident Management System (IMS) by the National Plan. PB/TCS noted that this suggestion had also been supported by Recommendation 3 of the *Pacific Adventurer* – Strategic Issues Report and Recommendation 3 of the Queensland *Exercise Waterwitch* Report.

Further, PB/TCS noted that AIIMS would need minor adaptations to meet the cost recovery and environment and science aspects of pollution response. However, the move to the AIIMS system would

be consistent with emergency services which form a key part of the National Plan arrangements, e.g. HNS response. AIIMS also has a well-established training program which has wide availability with the Government and private sector. Such a move would, as noted in the *Pacific Adventurer* – Final Strategic Issues Report:

*facilitate the smooth insertion of personnel and management systems from agencies which use AIIMS into the oil spill response command structure<sup>13</sup>.*

### **NPMC consideration**

In considering this matter NPMC noted the implementation of AIIMS within the Western Australian marine pollution arrangements. NPMC agreed that the National Plan should adopt AIIMS as the standard IMS noting that AIIMS provides sufficient scope to recognise the recommended structure for the delivery of environment and science advice, in particular AIIMS provides for specialist advisors and liaison officers.

#### **Outcome 9**

**The National Plan to adopt the Australasian Inter-Service Incident Management System (AIIMS) as the standard Incident Management System.**

## **Prevention, Preparedness, Response and Recovery**

### **Background**

PB/TCS proposed that parties to the IGA should clarify the roles and responsibilities of participants once a response has been officially terminated, to provide guidance to managing agencies in the recovery phase. This issue was raised in the Queensland *Exercise Waterwitch* Report (Recommendation 1), which noted that ‘recovery’ was not adequately addressed under the National Plan and that this should be addressed as part of the National Plan Review.

### **NPMC consideration**

To address this concern, NPMC agreed that the National Plan should formally adopt the Prevention, Preparedness, Response and Recovery (PPRR) approach to plan for, and manage, marine pollution incidents. Such a process will provide for effective transitioning through each response phase, in particular the transition from response to recovery.

#### **Outcome 10**

**The National Plan to formally adopt the Prevention, Preparedness, Response and Recovery (PPRR) approach to plan for, and manage, marine pollution incidents.**

<sup>13</sup>[www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_plan/Incident\\_and\\_Exercise\\_Reports/index.asp](http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Incident_and_Exercise_Reports/index.asp)

## National Plan Terminology

### Background

A number of issues raised by PB/TCS indicated that National Plan terminology with respect to the tiered response and statutory combat agency concept was unclear and subject to different interpretations. This issue was also raised in the Queensland *Exercise Waterwitch* Report, which recommended that the National Plan/NMERA Review clarify the role of the statutory agency and combat agency and the relationship between the two (Recommendation 2).

### NPMC consideration

NPMC agreed that AMSA should develop revised National Plan terminology for NPSCC's consideration.

#### **Outcome 11**

**AMSA to develop revised National Plan terminology for NPSCC's consideration.**

## 6. COMMONWEALTH PREPAREDNESS

### Commonwealth Preparedness Arrangements

#### Background

PB/TCS noted that prior to the uncontrolled release of oil from the Montara wellhead platform the Commonwealth had little opportunity to respond directly to an oil spill. AMSA and other Commonwealth agencies regularly provide assistance to the States/NT during spills in their jurisdictions. The Montara incident highlighted the importance of ensuring the Commonwealth forms cohesive arrangements for preparedness and response.

#### NPMC consideration

NPMC noted that the new Commonwealth committee would be consistent with administrative arrangements within the States/NT and provide more effective preparedness for marine pollution incidents in Commonwealth jurisdiction. NPMC emphasised that this Commonwealth committee would need to take into account the Commonwealth Government's response to Recommendations 84 and 85 of the Report of the Montara Commission of Inquiry.

#### Outcome 12

**The Australian Government through AMSA to establish a Marine Incident Emergency Committee with responsibility for coordinating preparedness and response arrangements within the Commonwealth jurisdiction (including shipping and offshore facilities).**

### Incident Management

#### Background

PB/TCS considered that AMSA should develop, in consultation with Commonwealth departments and agencies, a response plan for the Commonwealth agencies as a subset of the National Plan that specifies responsibilities of each Commonwealth agency in relation to oil spill response, including in relation to the Commonwealth marine area and other Commonwealth responsibilities. As part of this process:

- AMSA and NOPSEMA should assess the resource implications of responding to an oil spill from a well blow-out and the requirement for additional support and resources from the petroleum industry, the National Plan and the international petroleum industry and agencies in such an event. Based on these findings, AMSA and NOPSEMA should assess, and where necessary, further develop arrangements to allow for additional expertise and resources to be brought in for such an incident from around Australia and from outside Australia in a timely and coordinated manner; and
- AMSA should consult with the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) and NOPSEMA in relation to roles and responsibilities associated with protection and management of the marine environment with details formalised in the context of a Commonwealth agencies response plan.

#### NPMC consideration

NPMC noted that this matter, while specifically a Commonwealth responsibility, would strengthen Australia's response arrangements. NPMC also noted that Recommendation 2 of the Report of the Montara Incident Analysis Team was also relevant in this context.

### Outcome 13

The Commonwealth Government to prepare a Marine Pollution Contingency Plan detailing the responsibilities of Departments and agencies with respect to a marine pollution incident from any source. AMSA would lead the development of the Plan. The Plan will address the risks from all sectors and in particular issues relating to response in remote locations and provide for more effective preparedness of the Commonwealth Government.

## External Territories

### Background

PB/TCS proposed that the Commonwealth assess and quantify the pollution response capability in the Australian region of the Antarctic and the other external territories and consider the options for establishment of appropriate equipment based on risk.

### NPMC consideration

NPMC supported PB/TCS proposal.

### Outcome 14

An external territories contingency plan to be developed as a subset of the Commonwealth's Marine Pollution Contingency Plan. AMSA to lead the development of the plan with relevant agencies including SEWPAC (Australian Antarctic Division) and Department of Regional Australia, Local Government, Arts and Sports.

## REEFPLAN

### Background

PB/TCS noted that REEFPLAN, the Great Barrier Reef Marine Park Authority's (GBRMPA) oil and chemical spill contingency plan, has not been incorporated into the National Marine Oil Spill Contingency Plan.

### NPMC consideration

NPMC considered that this was not required, however it was agreed that the current arrangements should be reviewed.



### Outcome 15

AMSA, Maritime Safety Queensland and the Great Barrier Reef Marine Park Authority to review the Queensland Coastal Contingency Action Plan (QCCAP) and supporting arrangements (including GBRMPA's internal contingency planning) to ensure effective response arrangements for the Great Barrier Reef region. The review should be cognisant of any new terminology developed under the umbrella of the National Plan including any new governance/control arrangements regarding spills of national significance.

## 7. STRATEGIC ISSUES

### Benchmark

#### Background

PB/TCS noted that the 2000 International Petroleum Industry Environmental Conservation Association (IPIECA) guide that previously informed benchmark calculations was based on credible spill potentials of oil spilled from different sized tankers. In Australia's case, the decision was made to provide equipment to combat a benchmark spill of 21,000 tonnes assuming a worst case scenario of the grounding of a 100,000 deadweight (dwt) tanker that generated oil spillage from two wing tanks and one centre tank into the marine environment.

The benchmark was the outcome of a study commissioned by AMSA in 1997 to assess spill size risk, based on IPIECA's calculations and tanker tonnage size. The conclusion was the catalyst for an increase in Australia's benchmark capability for the first time since 1994/95, from 10,000 to 21,000 tonnes. Subsequently a review of arrangements for the management and operation of the National Plan, completed by ACIL Consulting (ACIL, 2000), stated that:

*'The AMSA study [in 1997] concluded that the National Plan had sufficient capacity when combined with AMOSC to meet a design spill size of at least 21,000 tonnes. Furthermore, this response capacity did not take into account State/NT owned and individual oil company equipment holdings.'*

The philosophy of equipment arrangements has remained unchanged from these earlier conclusions. However, given the changes in vessel size and the expansion of offshore petroleum activities experienced during the last 15 years, PB/TCS considered that the issue of whether a capability to respond to 21,000 tonnes of oil remained appropriate was of fundamental importance.

The benchmark is seen by AMSA as a policy and a public relations instrument which identifies the spill size – 21,000 tonnes – that Australia declares it has a capability to respond to, on the basis of current equipment holdings. From an oil spill response planning perspective, in the view of PB/TCS the benchmark provides limited value as it gives no indication of Australia's ability to respond.

The National Plan sets out clear national objectives for handling ship-sourced oil spills, and the response benchmark is concerned primarily with the spillage of oil. However, whilst the National Plan acknowledged that a wide variety of chemicals was likely to be encountered during chemical spills, PB/TCS noted that minimal guidance is available on Australia's capability or methodology for responding to chemical spills. Furthermore, the benchmark gives no specific consideration to the capability to respond to an oil spill from the offshore petroleum industry.

#### NPMC consideration

In considering this matter, NPMC decided that NPSCC should review the purpose and requirement for national benchmarks for shipping and offshore petroleum incidents, including determining the policy reasons for having such benchmarks.

#### **Outcome 16**

**NPSCC to review the purpose and requirement for national benchmarks for shipping and offshore petroleum incidents, including determining the policy reasons for having such benchmarks.**

## National Plan Review

### Background

PB/TCS proposed that the National Plan and NEMRA IGA's should contain a sunset clause outlining triggers for the revision of the National Plan and NEMRA. These triggers should include significant new developments that could result in increased risk of spills such as:

- changes in legislation;
- membership changes; and
- major oil or HNS spill incidents.

It was also suggested that AMSA establish a program of regular and comprehensive assessments to confirm the on-going capacity of the National Plan and NEMRA to meet the obligations of the OPRC 90 Convention and the OPRC-HNS Protocol. Future National Plan assessments should include response capability testing in relation to planned marine protected areas, new and expanded ports and offshore developments, including in relation to chemical spills in ports.

### NPMC consideration

NPMC considered that the National Plan IGA should be established for a fixed period, with the option of extending its life subject to the formal agreement of the Standing Council on Transport and Infrastructure. The Standing Council decision to exercise the extension option should be based on consideration of a 'National Plan Outlook Report' which would be a stock take of the National Plan, its management and its future. NPMC considered that NPSCC should be responsible for preparing the Outlook Report.

Further, NPMC noted that the Outlook Report should specifically consider:

- whether international obligations under OPRC 90 Convention and the OPRC-HNS Protocol were being met;
- the management effectiveness of the National Plan;
- social, economic and environmental factors influencing the risk profile; and
- risk based assessment of the long term outlook for the National Plan.

The policy outcomes from the Outlook Report could be one of the following:

- renewal of the current arrangements;
- minor amendments to the IGA and/or operational and administrative arrangements; or,
- a major review of the National Plan arrangements.

NPMC emphasised that this would not automatically precipitate a full review of the National Plan or IGA, but actually assigns the responsibility to NPSCC to justify a review to Ministers. NPMC also noted that Recommendation 7 of the Montara Incident Analysis Team was also relevant in this context.

#### Outcome 17

**The National Plan IGA to be established for a fixed period, with the option of extending its life subject to the formal agreement of the Standing Council on Transport and Infrastructure. The Standing Council's decision to exercise the extension option to be based on consideration of a 'National Plan Outlook Report' which would be a stock take of the National Plan, its management and its future. NPSCC to be responsible for preparing the Outlook Report.**

## Risk Assessment

### Background

In noting the DNV Risk Assessment undertaken as part of the overall review, PB/TCS proposed that the risk assessment be updated when new networks of marine protected areas were declared, and the marine bioregional plans should be integrated into the information sources that inform response operations. Future reviews of the National Plan arrangements should be based on a series of risk assessment and hazard identifications in the preceding reporting period to ensure preparedness and resources under the National Plan and jurisdictions reflect current levels of risk.

### NPMC consideration

NPMC, in noting this proposal further noted that Recommendations 93(a) and 93(b) of the Montara Commission of Inquiry were also relevant in this context.

#### **Outcome 18**

**AMSA to investigate the implementation of a dynamic risk model for the National Plan (i.e. phase 2 of the original terms of reference for the risk assessment project) and report to NPSCC on progress.**

## 8. MARINE POLLUTION RESPONSE

### Hazardous and Noxious Substances

#### Background

A number of stakeholders raised issues with PB/TCS regarding the response to incidents involving chemicals and other HNS substances. The responsibility for responding to such spills in near-shore waters usually sits with the relevant State/NT fire service or emergency authority operating within the State/NT emergency management arrangements. This could be a problem if such an incident occurred offshore, as these agencies may not have the capability to respond appropriately, or there could be confusion between their roles and AMSA's role under the National Plan. Associated issues raised by stakeholders included the lack of expertise and resources able to respond effectively to a major chemical spill in the marine environment, the lack of detailed information on the management of chemicals spilled in the marine environment in the National Marine Chemical Spill Contingency Plan (ChemPlan) and the perception that the Chemical Operations Working Group (COWG) has no clear role in National Plan arrangements.

Also relevant was the Queensland *Exercise Waterwitch* Report, which recommended that the National Plan should more fully address chemical spill response considerations and arrangements (Recommendation 4).

PB/TCS noted that the risk of chemical spills was excluded from the DNV Risk Assessment. However, an earlier study titled *Analysis of Bulk Chemical Spills in Australian Ports and Waters* indicated that Australia could expect an HNS incident involving bulk liquids on average once in every 1 to 1.5 years. In comparison, the DNV Risk Assessment indicated that the likely frequency of oil spills greater than 1 tonne is 3.9 per year.

PB/TCS noted that the ongoing work of the NPOG, COWG and AMSA had identified a series of gaps in Australia's capacity to respond to marine HNS incidents and that these would be progressively addressed in the coming financial years. AMSA had implemented a chemical advisory service through the New South Wales Fire Service (ChemPlan Level 1 response), and had commenced negotiations with the Australian Fire Authorities Council (AFAC), for a national approach to offshore Hazardous Material (HAZMAT) Response (ChemPlan Level 2 response).

#### NPMC consideration

NPMC previously considered the need for greater HNS preparedness and tasked NPOG and COWG with addressing any gaps in preparedness and response ability. This work has been ongoing and will be undertaken by the appropriate technical group under the revised National Plan arrangements.

NPMC noted that should NPSCC agree to a response benchmark for Australia's HNS response capability, the relevant Technical Group should review the response strategy against the benchmark.

#### Outcome 19

**NPSCC, through each jurisdiction, to conduct an audit of [Commonwealth]/State/NT capability to respond to marine HNS incidents.**

#### Outcome 20

**NPSCC to task the Preparedness and Response Technical Group to review progress on the implementation of a Level 2 capability and develop a concept of operations for the management of a Level 3 incident.**

## Equipment and Response Assets

### Background - Stockpile locations

Currently there are nine locations where AMSA Tier 2 / Tier 3 equipment is stored and six where Tier 1 equipment is stored. PB/TCS noted that stakeholders were mainly of the view that equipment should be located according to risk. Some stakeholders proffered the opinion that there should be more rather than less locations.

PB/TCS formed the view that the current number of locations for AMSA equipment is making storage and maintenance inefficient and to some degree ineffective. The logistics for deploying equipment from so many locations in the event of a major Tier 3 spill would be, in the view of PB/TCS, severely impeded. PB/TCS questioned whether value for money is being achieved with the current arrangements. In view of the fact that most of the Tier 1 equipment was transferred to the States/NT/ ports following the 2000 Review of the National Plan, PB/TCS also considered that the number of locations for the AMSA equipment needs to be rationalised, taking account of risk and the available logistics to deploy equipment.



Accordingly, PB/TCS concluded that, from a risk perspective, the main vulnerable areas identified in the DNV Risk Assessment should be considered the key strategic subregions for AMSA Tier 2/Tier 3 equipment stockpiles. Furthermore, AMSA in conjunction with NPMC/NPOG should, by taking notice of the DNV Risk Assessment and the logistics needed for swift deployment, rationalise the number of AMSA Tier 2/Tier 3 stockpiles and determine their location and equipment holdings.

### NPMC consideration

NPMC agreed that the role of the AMSA stockpiles should be clearly defined within the National Plan as those resources that may supplement the local and regional/State resources. It was also agreed by NPMC that the DNV Risk Assessment did not provide a compelling reason to change the locations of the nine major stockpiles, though the stockpiles of Dampier and Townsville adjacent to the very high risk areas identified in the DNV Risk Assessment should be upgraded. NPMC also agreed that the nine major stockpile locations should be retained as they provided effective coverage of the national risk profile.

NPMC also noted that AMSA would provide a detailed policy paper on the location and composition of the AMSA stockpiles for the consideration of NPSCC as part of the ongoing implementation of the Review. Should NPSCC agree to a response benchmark for Australia's oil response capability, the Pollution Preparedness and Response Technical Group will review the above response strategy against the benchmark. NPMC also considered that NPSCC should also take into account the Queensland *Exercise Waterwitch* Report, which recommends that the locations of response equipment in far north Queensland be reviewed (Recommendation 5).

#### Outcome 21

**The two AMSA Tier 2/Tier 3 equipment stockpiles of Dampier and Townsville adjacent to the very high maritime risk areas identified in the DNV Risk Assessment, to be upgraded proportionately to the risk profile.**

## Storage and Maintenance

### Background

PB/TCS noted that there are currently nine locations where AMSA Tier 2/Tier 3 equipment is stored and six where Tier 1 equipment is stored. AMSA manages nine providers of storage sites and five different maintenance contractors. With this myriad of contracts, the requirement to audit and ensure compliance is, in the view of PB/TCS, likely to be a difficult task. The Oil Response Company Australia (ORCA) audit of the location and condition of response equipment indicated that equipment condition reporting by the custodians is deficient. PB/TCS considered that AMSA should reiterate with equipment custodians the requirement to audit and report to AMSA on the status and condition of all equipment stockpiles on a regular basis.



Following stakeholder consultations, PB/TCS noted that the quality of storage facilities where AMSA equipment was located ranged from high quality to beyond economical repair. Many facilities suffered from having to share floor space with other users, which makes access for maintenance and response difficult. Some facilities have vermin infestation problems and a lack of staff amenities. The quality of some of the storage facilities is having a detrimental impact on oil spill response equipment availability and accessibility.

In the opinion of PB/TCS, AMSA, in conjunction with the National Plan stakeholders, should develop a national standard for the storage and maintenance of AMSA Tier 2/Tier 3 oil spill response equipment, and ensure all future storage and maintenance of AMSA Tier 2/Tier 3 equipment is carried out to this standard.



### NPMC consideration

NPMC endorsed the current PB/TCS findings on this matter. NPMC also agreed that NPSCC would monitor the state of equipment preparedness on a national level, and not just the AMSA stocks.

#### Outcome 22

**AMSA to develop standard storage and maintenance arrangements, including formalised processes for audit, of the national stockpiles as part of its tender for storage and maintenance services.**

#### Outcome 23

**NPSCC to agree standard audit and reporting requirements for all stakeholders to report against on an annual basis.**

## Training

### Background

PB/TCS noted that stakeholder consultations indicated that past training arrangements were considered ineffective, both in the content of the courses and their availability. PB/TCS, and some stakeholders, acknowledged that steps have been taken by AMSA to improve this situation, as demonstrated through the National Plan training framework. However, a number of these courses are still to be developed and concerns were expressed regarding AMSA's resources, competency and availability to achieve the objectives of the revised training framework.

On this basis, PB/TCS formed the view that a comprehensive training review should be undertaken which considered, *inter alia*:

- the content of training courses;
- implementation of CBT;
- incorporating comprehensive emergency management principles and training for different types and sizes of spill;
- enhancing the availability of training through RTOs; and
- the demand and availability of training.

Furthermore, PB/TCS noted that many stakeholders expressed concern, largely borne out of a lack of understanding, about the existing funding regime associated with the national training program. It was evident to PB/TCS that different stakeholders possessed differing levels of appreciation of how much funding was available and how that funding was allocated. They expressed concern about the lack of training on the basis of course availability and funding. Based on the general lack of consistent understanding within the spill response community, PB/TCS were of the opinion that a review of the current training and associated funding regime should be undertaken.

There is a perception that the skills and competencies required for the management of an oil spill response are increasingly in short supply given the reducing numbers of suitably qualified mariners ashore. The findings of the PB/TCS project supported this notion and further emphasised the importance of rigorous, relevant and regular training in order to ensure that appropriate trained personnel were available to respond to an oil spill in Australian waters.



PB/TCS considered that minimal attention was currently being given to the response arrangements, the necessary resources and the training requirements associated with a large chemical spill response. There were grave concerns amongst some industry sectors that the response to chemical spills had been overlooked. The range of potential spill types and the associated response requirements were acknowledged as complex, but there was a view that much more should be done to better equip Australia for a bulk chemical spill response. On the basis of the finding of the stakeholder consultations, PB/TCS supported this notion and considered that steps should be taken to provide appropriate training for chemical spill responses.

PB/TCS also noted that National Plan stakeholders see it as AMSA's role to take a strategic position and lead the development of a national oil spill training framework, based on CBT, designed to foster succession planning activities. With strategic direction on training standards, the framework could facilitate the devolution of training funding to State/NT jurisdictions to source training from suitable accredited training providers. The NPMC's recent drive towards CBT was generally welcomed by

stakeholders on the basis that this approach had become standard practice throughout the Fire Authorities and other emergency services. However, as the regime was introduced within the oil spill environment, it would need to be clearly articulated as to how the training would be implemented, who would provide the training, and which agencies would be expected to meet the costs. PB/TCS considered that, given current indications, a significant cultural change would be required to successfully implement CBT throughout the spill response community.

The need for training across multiple agencies was consistently raised by stakeholders during consultations. The lack of understanding by some key government bodies as to the role and responsibilities of other agencies was clear, and of concern to PB/TCS. More training was required across agencies to increase awareness of organisational requirements and expectations, and to build effective working relations between participants.

PB/TCS highlighted that a number of recommendations pertaining to training from past incidents, including the *Pacific Adventurer*, had still not been implemented. These primarily related to the training of local council staff in shoreline clean-ups and participation on the NPMC. PB/TCS considered that the various State/NT committees were responsible for ensuring such recommendations were addressed.

### **NPMC consideration**

NPMC noted that NPMC had reviewed the National Plan training program and committed to a new system based on the principles below:

- content of training courses for each level of responder in order to respond to benchmark/tiered spills;
- adoption of CBT more in line with the fire and emergency services sectors;
- training courses pitched at responding to incidents of varying sizes and scales including offshore responders;
- the demand and frequency of the courses for each level of responder;
- opportunities to enhance the provision of training through recognition of existing accredited courses and suitable RTOs; and
- equitable funding for training for all levels of oil spill response personnel and the possibility of devolving training obligations.

Further, NPMC noted that AMSA had been progressively implementing a new training program, in line with the above principles, for management level positions within the Incident Management Team. This program was also in response to Recommendation 7 of the *Pacific Adventurer* Strategic Issues Report relating to the need for a pool of experienced and trained incident controllers. The rollout of this program would be finalised in 2012-13. NPMC noted that an update on the implementation of this program would be provided to the NPSCC in 2013.

Finally, NPMC noted that the implementation of accredited CBT at the State/NT level had been slow due to a combination of resource availability and expertise within the States and NT.

#### **Outcome 24**

**To assist the implementation of accredited CBT, AMSA to resource a 12 month contract position to assist the States/NT to:**

- align their training with the AMSA RTO program; and
- adapt existing training to a competency based framework, with a view to establishing nationally consistent training outcomes.

#### **Outcome 25**

**AMSA to develop a familiarisation course for marine pollution response based on the IMO Model Courses for delivery by the jurisdictions.**

# Succession Planning and National Response Team

## Background

PB/TCS recognised that development of a National Plan oil and chemical response personnel succession plan should enable succession planning opportunities, by expanding personnel experience across all levels of a response to ensure that an equitable share of experience is provided across all sectors during training and exercises.

Following stakeholder consultations, PB/TCS concluded that AMSA should:

- assess the existing arrangements for identifying and developing key oil and chemical response personnel i.e. ICs, Environmental Scientific Coordinators (ESC), etc.; and
- develop a national oil and chemical response personnel succession plan to ensure Australia possesses the necessary skills and competencies to respond to oil and chemical spills both now and in the future, that also recognises the role of State/NT and Commonwealth ESCs.

## NPMC consideration

NPMC endorsed the PB/TCS findings on this matter.

**Outcome 26**

**NPSCC to review the composition of the NRT skill sets and determine whether expansion is required, e.g. inclusion of Environment and Science Coordinators.**

**Outcome 27**

**AMSA to develop a succession plan and program for the NRT focused on:**

- development of the NRT members by processing all areas of competency;
- annual exercising of the NRT to maintain currency of skills; and
- ensuring there are sufficient trained personnel to maintain the staffing levels of the NRT.

**Outcome 28**

**Jurisdictions and industry to formulate similar succession and development plans for State/NT Response Teams and the AMOSC Core Team, respectively.**

**Outcome 29**

**AMSA to provide the following non-training forums for the maintenance of key personnel:**

- continuance of the ESC Workshop;
- re-establishing a workshop for Marine Pollution Controllers and senior officials; and
- establishing a workshop for ICs and senior response managers.

## Exercises

### Background

PB/TCS reported strong consensus from all stakeholders consulted that national exercises should be conducted more frequently and lessons learnt promulgated more widely. Prior to Exercise 'Sea Dragon' in Victoria in November 2011, the last national exercise was conducted in 2006. In the intervening period:

- the *Pasha Bulker* ran aground at Newcastle in 2007;
- the *Pacific Adventurer* oil spill and *Montara* incident occurred in 2009;
- the *Shen Neng 1* grounded near Great Keppel Island in early 2010; and
- the Gulf of Mexico *Deepwater Horizon* incident also occurred in early 2010 at the Macondo oil field in the United States.

A series of lessons learnt have been drawn from these incidents, and stakeholders were acutely aware of the need to participate in training and exercises to ensure the lessons learnt can be appropriately promulgated.

Due to the lag time between national exercises, PB/TCS noted that many National Plan stakeholders did not have the opportunity to participate in incidents or exercises for a number of years. In this time, the turnover of staff and limited succession planning evident in the spill response community may have led to significant gaps in knowledge and experience, and limited ability to adequately fill the Incident Management Team positions.

Integral to future exercise scenarios would be the inclusion of planning, logistical and administrative functions beyond the deployment and initial response phases. The scenarios should be integrated with or reflect the Australian emergency management framework in the response phases, and provide for the expertise of fire and emergency services personnel. In many past incidents, both in Australia and internationally, fire and emergency services personnel have formed a significant component of the Incident Management Team. The confusion in terminology and roles has been identified as a key issue in responding to oil spills under State/NT disaster plan frameworks. The current National Plan OSRICS structure was perceived to be different to the AIIMS structure used by the hazardous materials/emergency services and offshore sectors, and this was frequently identified as an issue through the course of this Review. A number of States operate under the AIIMS system and no longer use the OSRICS system.

### NPMC consideration

NPMC endorsed the PB/TCS findings on this matter and also noted that, as part of a coordinated training and development work program, AMSA's Marine Environment Division had undergone a restructuring process which had resulted in a senior officer now being responsible for coordination of national exercises.

#### Outcome 30

**A national exercise to be held on an annual basis and be rotated between jurisdictions. A full field deployment exercise to be undertaken every second year.**

#### Outcome 31

**NPSCC to:**

- **agree on a policy on the responsibilities of AMSA and the 'host' jurisdiction in relation to the development and management of the national exercise; and**
- **develop a clear exercise policy setting out each jurisdiction's responsibilities in relation to exercises.**

#### Outcome 32

**The National Plan to adopt the Emergency Management Australia (EMA) Exercise Management as the basis for the development and management of exercises conducted under the National Plan.**

## Incident and Exercise Reports

### Background

PB/TCS noted that strategic and operational recommendations arising from incidents and exercises were managed through the NPOG. The overriding concern for many stakeholders was that progress to close out recommendations from incidents and exercises had not generally been reported. The recommended actions may have been implemented, but stakeholders were not always advised when this had occurred. Stakeholders were also not satisfied that there was an appropriate process for providing implementation feedback to the NPMC, AMSA and the oil spill response community, particularly in relation to any changes made to oil spill response arrangements, planning, training, procedures, and contingency plans as a result of recommendations from past incidents and exercises. This would indicate that lessons learnt are not being digested and acted upon, and measures are not being put in place to ensure that similar incidents are prevented and/or appropriately responded to.

PB/TCS found that the level of detail and robustness of the recommendations varied significantly with each incident. For example, the *Pacific Adventurer* Incident Analysis Team (IAT) reported over 50 recommendations, some of which provided commentary rather than being an operational or strategic recommendation. In some cases, the report's recommendations were contradictory (for example, issues clearly associated with confusion between State Committee roles and NPMC roles).

In contrast, the *Montara Wellhead Platform Incident* IAT report recommended eight key strategic issues, with 21 operational and technical issues referred directly to the NPOG as an attachment to the IAT report. PB/TCS considered that the Terms of Reference for the Montara IAT report were well-considered, and provided an opportunity for clear, concise strategic operations to be raised with AMSA and the NPMC, and a suite of operational issues to be referred to the NPOG for resolution.

PB/TCS also noted that there was no specific close out process associated with the ongoing management of information, and considered that there was a clear need to develop a robust tracking and close out process for the management of this information across all levels of government. State jurisdictions are required to address issues in their States, and there would be great benefit for these issues to be tracked and reported to the NPMC.

Similarly, PB/TCS noted that the NPMC had a suite of issues to action at a Commonwealth level that also need to be tracked and closed out when completed. State jurisdictions would benefit from feedback on how these actions were implemented. PB/TCS considered that the development of an agreed process for closing out recommendations was a fundamental role for the NPOG and NPMC to ensure that gaps and deficiencies were identified, and measures applied to prevent reoccurrences of such incidents. The process of managing and reporting such information, once the process was agreed and implemented, would be of great value to all stakeholders and could be included in annual reporting requirements under the revised National Plan IGA.

### NPMC consideration

In considering this issue NPMC noted the need to develop a policy and procedures for the conduct of After Action Reviews (AARs)/Incident Analysis for exercises and incidents and to develop a tracking system for recommendations arising from national exercises and incident AAR's. NPMC also noted the need to provide a report to NPSCC on the handling of recommendations from the *Pacific Adventurer* and Montara IAT Reports and *Exercise Waterwitch*.

#### **Outcome 33**

**NPSCC to develop a policy and procedures for the conduct of After Action Reviews/Incident Analysis for exercises and incidents and the management of recommendations from those reviews/analysis.**

#### **Outcome 34**

**AMSA to develop a tracking system for recommendations arising from National exercises and incident AAR's. The tracking system to be managed by the NPSCC Secretariat.**

#### **Outcome 35**

**AMSA and MSQ to provide a report to NPSCC on the handling of recommendations from the *Pacific Adventurer* and Montara IAT Reports and *Exercise Waterwitch* respectively in the context of implementation of the National Plan Review.**

## **Response Support**

### **Background - Incident Management System**

PB/TCS noted that AMSA was developing a web-based IMS to provide for more effective distribution and recording of information during an incident. The IMS will likely provide tools for:

1. undertaking response planning;
2. accessing and tracking response resources; and
3. accessing decision support systems.

### **Background - OSRA and GIS**

PB/TCS noted that OSRA was intended to be used in the early stages of a spill to identify specific areas in need of protection, and to manage information throughout a response. Outputs from OSRA, in addition to several other status reports, were required to be relayed to the IC to assist in resource protection strategies. PB/TCS noted that past response operations had evidently not utilised OSRA during this early phase. For example, the IAT for the *Pacific Adventurer* incident reported that there was a need for better understanding of the OSRA system at all responder levels. A greater emphasis on training, and collection and input of data was suggested, with a recommendation that the OSRA skill sets should be recognised as a specific element for inclusion in the NRT training.

Whilst a number of stakeholders remained silent on the issue, PB/TCS noted there was a requirement and a component of funding available for States/NT to maintain the OSRA data sets. It was clear from the PB/TCS consultation sessions and stakeholder feedback that many stakeholders were not clear on the availability of funding to complete this task. Also, a number of States/NT were not contributing data to the OSRA, while some had received a larger proportion of funds for their input than others. PB/TCS considered it is possible that the application of quality assurance standards and maintenance requirements would need to be included in any updated data licence agreements.

PB/TCS also recognised that suggestion by stakeholders that OSRA should be publicly available to (non-principal) stakeholders for the purposes of contingency planning and training required investigation in consultation with training providers. Currently, OSRA outputs are available for contingency planning purposes 1 month in advance. Foreseeably, PB/TCS considered there was a need to reiterate the availability of this resource more broadly to training providers, and to clarify access arrangements for public queries through the AMSA website pro forma.

PB/TCS also noted that advances in technology, and the general availability of mapping and viewing software, have improved significantly in the last 10 years. It was foreseeable that publicly available non-strategic data sets that contribute knowledge of a region, based on contemporary studies, would be of value in spill response efforts. For example, there were vast numbers of studies being completed in support of development applications or approval processes for (offshore) upstream petroleum projects nationally. These projects may identify new environmental or operational issues in a specific region that would require consideration in the event of spills. PB/TCS expressed the view that it was currently not clear if, or how, this critical information was being captured and relayed by/to relevant agencies to assist decision makers in planning and response efforts. There was potentially a need for non-strategic data sets held by a range of agencies to be further investigated. Appropriate data licence agreements could also be set out to enable access to and population of the OSRA during planning and prior to spill response phases.

**NPMC consideration**

NPMC noted PB/TCS findings on these matters and that future work should take into account Section 7 of the *Pacific Adventurer* Operational and Technical Issues Report.

**Outcome 36**  
**NPSCC to conduct an audit of the current status of OSRA development within each jurisdiction. The audit to consider the capacity to maintain the system and ability to deploy sufficient capabilities during a pollution incident.**

**Outcome 37**  
**AMSA to conduct a review of the administrative guidelines for OSRA, taking account of the risk assessment.**

**Outcome 38**  
**AMSA, as part of the development of an Incident Management System, to investigate providing a web-based version of OSRA, noting that the major issues would relate to data ownership and access, rather than the technological solutions. Such a solution would provide for the broader use of OSRA data in response operations, including responses by the offshore sector.**

**Outcome 39**  
**NOPSEMA and State/NT regulatory bodies to work with operators to include data obtained as part of development applications or approval processes for (offshore) upstream petroleum projects within OSRA to improve preparedness arrangements, rather than each facility maintaining datasets in isolation.**

## **Modelling**

### **Background**

PB/TCS did not have the opportunity to view modelling inputs or outputs for trajectory models; therefore their assessment was guided by stakeholder needs raised in consultation sessions. Of the limited number of stakeholders that did respond to this section of the Review, PB/TCS noted that most were satisfied with the detail, timeliness and quality of the service provided. It was apparent that the potential applications for this technology were significant, which was recognised by stakeholders. For example, there was an interest in modelling pre-spill scenarios to assist in contingency planning for proposed port expansions.

### **NPMC consideration**

NPMC noted that AMSA was developing strategic relationships with CSIRO and Integrated Marine Observing System (IMOS), amongst others, that have key roles for the development and validation of the oceanographic models underpinning the National Plan trajectory modelling capability, for example Bluelink. NPMC noted that AMSA believed that validation of modelling capability through expert bodies, rather than the National Plan committee system, provided a more rigorous base for the ongoing development of the system.

## **Asset Management System**

### **Background**

While the Marine Oil Spill Equipment System (MOSES) database was intended to track and maintain Tier 1 to Tier 3 equipment, stakeholders reported to PB/TCS that MOSES could not accurately or efficiently track Tier 1 equipment nationally. It was understood that a number of stakeholders maintain their own equipment registers and have developed their own oil spill response asset maintenance schedules. The MOSES database was seen by many to be out-dated and a duplication of stakeholder effort. MOSES utilises Maximo software; however, in its current format, this asset maintenance and scheduling software program requires staff to have the necessary training/familiarity to operate the system. Comments across sectors indicated that the software was out-dated in design, limited in functionality and had a low level of user-friendliness for their purposes. The consultation findings indicated a need for NPOG to identify and interact with current users of MOSES under the National Plan to clarify their needs and capability for reporting equipment stockpile status in a standard national plan asset management system. Another option may be to outsource the maintenance scheduling to an external party, similar to the OSTM arrangements.

MOSES currently covers all oil spill response equipment holdings in Australia. It was acknowledged by a number of stakeholders that the ongoing need to consistently update and maintain the database to this level of detail was an onerous and perhaps unachievable task. Any changes adopted to equipment stockpile locations and quantities and, therefore, to associated asset management processes, would have a direct impact on the future viability of MOSES to meet the needs of the spill response community.

### **NPMC consideration**

NPMC noted that Maximo remains AMSA's asset management system and that AMSA would not support another system. However as part of the development of the IMS, AMSA would look to develop applications to enable users to draw on 'live' Maximo data without a requirement to maintain or have knowledge about the Maximo software itself. NPMC agreed that the IMS could also provide a capability for National Plan stakeholders to update information about State/NT, Industry and port resources. NPMC also noted that AMSA had provided a public web-based application which enabled stakeholders to search and view AMSA equipment holdings.

## 9. SALVAGE AND INTERVENTION

### Incident Management

#### Background

PB/TCS noted that since its introduction in 2006, NMEMA assets had responded to some 20 incidents around the Australian coast, and that all of the ships involved carried quantities of bunker fuel. In March 2009, the *Pacific Adventurer*, off Queensland, spilled 270 tonnes of bunker fuel and clean-up costs were in excess of \$30 million. The 20 incidents where NMEMA assets and interventions were successfully applied all had the potential for spills of similar or greater amounts of oil, with significant clean-up required. Assuming clean-up costs similar to the *Pacific Adventurer*, PB/TCS noted that these 20 incidents could have resulted in clean-up costs totalling at least \$600 million. By comparing this figure to the actual cost of the NMEMA (totalling around \$62 million since inception), it could be argued that the NMEMA was a cost-effective response strategy.

During the stakeholder consultation period, a wide range of comments were received regarding NMEMA. The Review found that there was generally a very low level of understanding of NMEMA amongst stakeholders. Since the introduction of NMEMA in 2006, there had been significant staff turnover, not only in AMSA, but also amongst most stakeholders. This appears to have had an impact on the understanding of NMEMA.

PB/TCS also found that NMEMA was a critical part of the pollution prevention and response arrangements in Australia. These arrangements, because of our Federal system, required a high level of cooperation and understanding between the Commonwealth and the States/NT. Many stakeholders noted that they were unsure of NMEMA expectations in relation to their organisation. It was recognised that the NMEMA could not operate effectively if participants were unclear of their roles, and that the NMEMA should include a clear statement for each stakeholder in relation to individual responsibilities, developed in consultation with stakeholders.

#### NPMC consideration

NPMC agreed that a standard incident management approach for maritime casualty and salvage incidents should be established. NPMC noted that the Salvage Control Unit structure was employed in a number of European jurisdictions and was effectively applied in the recent *MSC Rena* incident in New Zealand. Such a system could be appropriate for the Australian context. NPMC also considered that development of a standard approach should take into account Recommendation 5 of the *Pacific Adventurer* Strategic Issues Report relating to the need for a thorough response plan, including an underwater hull inspection.

#### **Outcome 40**

**The NPSCC, through the Marine Pollution Prevention Technical Group, to develop an agreed incident management framework for salvage incidents.**

## Emergency Towing Capability

### Background

Based on the Environmental Risk Index depicted in the DNV Risk Assessment<sup>14</sup> and the regions where the Level 1 and Level 2 ETVs were located, PB/TCS concluded that the NMERA ETVs were appropriately located at this time. The high to very high ERI subregions identified in the DNV Risk Assessment were currently provided for under NMERA's ETV services.

A number of stakeholders expressed concern that no ETV 2 existed in their area, and due to the distances involved, steaming time for an ETV 2 to reach a casualty would be an issue. However, these areas may have suitable harbour towage that would form part of the ETV 3 inventory. PB/TCS requested that AMSA ensure that it had discussions with towage operators that were part of the ETV 3 inventory, as well as the port operating companies where the ETV 3 tugs were located. This would ensure they were fully aware of the NMERA arrangements and the possibility that they may be called upon to respond to a marine casualty.

### NPMC consideration

While noting that the PB/TCS consultations did not provide any grounds for changing the current distribution of ETV 1 and ETV 2, NPMC noted that the risk profile should be monitored to identify any changes to the national risk. NPMC also noted that AMSA would review the ETV program requirements post the current ETV 1 contract in 2014 to complement any changes in:

- legislation;
- technology including:
  - communications;
  - Vessel Traffic Systems (VTS);
  - aids to navigation; and
- Australian and international shipping industry towage, port services and salvage.



<sup>14</sup>See Table 3.6 from the DNV Risk Assessment, reproduced on page 14

## 10. FUNDING AND COST RECOVERY

### Cost Recovery Policy and Procedures

#### Background

PB/TCS' consultations with stakeholders indicated that the cost recovery arrangements were not clear to all responding agencies. The process and protocols for decision makers needed to be clarified, such that costs that could be recovered were understood and transparent and a clear definition was established of what is deemed reasonable. There needed to be a clearer process for decision makers regarding what clean-up actions and equipment would be paid for and what would not. PB/TCS noted that there was currently no clear mechanism to recover costs.

PB/TCS considered that cost recovery should be a level playing field. With the current structure of cost recovery it was unclear who was making the claim and through which legislation. There were also internal resourcing issues for agencies in this area. Concerns were expressed that responders were not paid until after the claim was settled; this is usually well outside normal trading terms. This could be especially detrimental to small budgeted agencies. By way of example, PB/TCS noted that in WA, cost recovery following the *Atlantic Eagle* incident in July 2008 was reimbursed to the State in 2011, meaning that the State carried \$250,000 worth of costs for response efforts for an extended period of time. Several agencies called for a system that incorporates progress payments.

It was also noted, however, that AMSA generally has to wait for payment from P&I Clubs in exactly the same way as other stakeholders. If the NRT is deployed, AMSA charges the polluter for its time based on an hourly rate or daily rates quoted in invoices provided by the States/NT. Notwithstanding that a claim may be submitted through AMSA, the NRT employer was responsible for submitting a claim to the polluter for their NRT staff time. It had proven very logistically challenging to track costs for different team members at different hourly rates. PB/TCS considered it would be preferable if a daily rate could be established for all NRT team members.

PB/TCS also considered that there should be a consistent national charge out fee for responding to incidents. This should include equipment hire. Currently these fees are different for each State/NT, which is inequitable and causes problems, as well as complications in administering the process after the event. There is a need to decide who is responsible for cost recovery — the Commonwealth or States/NT. Each event is different and this is causing confusion.

Current arrangements for cost recovery are limited to the response phase only. The International Oil Pollution Compensation (IOPC) Funds Convention provides compensation for:

*...impairment of the environment limited to loss of profit from such impairment and costs of reasonable measures of reinstatement actually undertaken or to be undertaken<sup>15</sup>.*

PB/TCS noted that the IOPC Funds may also contribute to studies to 'establish the nature and extent of environmental damage caused by an oil spill and to determine whether or not reinstatement measures are necessary and feasible'<sup>16</sup>. PB/TCS noted that there appeared to be different recovery arrangements for each incident. A single national system that was clearly enunciated and followed during each event was required.

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<sup>15</sup>refer page 35 of the IOPC Fund Claims Manual

<sup>16</sup>refer page 36 of the IOPC Fund Claims Manual

In the opinion of PB/TCS, the recovery arrangements required more explanation. The existing arrangements do not take into account the recovery arrangements of each jurisdiction, and how P&I Clubs would interact with State/NT government agencies tasked with coordinating the recovery efforts. AMSA should provide more detail on how these arrangements work. Consideration needs to be given as to how P&I Clubs should link up with recovery coordinating agencies.

### NPMC consideration

In addition to the above, NPMC noted that cost recovery for reef damage was a major issue which is difficult to include under current arrangements. The new arrangements would need to be explicit on what is excluded from the National Plan cost recovery arrangements. NPMC believed that NPSCC should consider the broader issue of environmental rehabilitation as part of the cost recovery guidance.

#### Outcome 41

**Revised National Plan Pollution Cost Recovery Procedures to be developed for endorsement by the NPSCC. The revision will consider the need for a consistent charge-out rate and take into account the Queensland Cost Recovery Guidelines, issues identified during the Review, and lessons learnt in recent incidents such as the *Shen Neng 1*.**

## Polluter Pays Principle

### Background

PB/TCS noted general acceptance of the National Plan principle that the potential polluter paid for preparedness and the actual polluter paid for clean-up costs, and in this context highlighted Recommendation 4 of the Report of the Montara Incident Analysis Team. This Recommendation was for a review of the legislative arrangements concerning insurance to ensure cost recovery arrangements following oil spills from the offshore petroleum, exploration and production industry were effective, and to recommend any improvements considered necessary.

### NPMC consideration

NPMC noted that this issue was addressed in the Government's response to the Montara Commission of Inquiry Report<sup>17</sup>, and that appropriate amendments were to be made to the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* and the *Environment Protection and Biodiversity Conservation Act 1999*.

## Limitation of Liability for Maritime Claims

### Background

PB/TCS noted that one of the issues highlighted by the *Pacific Adventurer* oil spill was that the limit of liability provided by the Convention on Limitation of Liability for Maritime Claims, 1976 (as amended by the 1996 Protocol) was no longer appropriate. It was also noted that at the time of the stakeholder consultations, the government had already taken steps to increase the limits by seeking to amend the Convention through the IMO.

### NPMCs consideration

NPMC noted that, since the PB/TCS project was completed, the Legal Committee of the International Maritime Organization had agreed to increase liability limits under the Convention by 51 per cent by 2015.

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<sup>17</sup>Recommendations 92 and 96

# 11. ENVIRONMENT AND SCIENCE

## Background

As noted in Section 2.4 of the current National Marine Oil Spill Contingency Plan<sup>18</sup>, the primary aims of an oil spill response are to protect human health and safety, to minimise environmental impacts, and to restore the environment, as near as is practicable, to pre-spill conditions. These aims require significant input from the environmental scientific community to the oil spill response operation, throughout the spill preparedness, response and recovery phases.

PB/TCS reported that the predominant opinion held by statutory agency and environmental stakeholders consulted during the Review was that there are significant gaps in the current arrangements and that environmental issues were not adequately considered as a mainstream consideration in oil spill risk management, preparedness and response. This sentiment was also reflected in the Montara incident reports. PB/TCS reported on the need for streamlining environmental approval processes, and clarifying Commonwealth Government roles, the ESC's responsibility for environmental issues, spill monitoring and cost recovery arrangements, and wildlife response.

PB/TCS also noted that a suite of recommendations from the final government response to the Montara Commission of Inquiry were relevant to the Review<sup>19</sup>, and these were reflected in stakeholder consultation sessions throughout the course of this Review.



<sup>18</sup>[www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_plan/Contingency\\_Plans\\_and\\_Management/Oil\\_Spill\\_Contingency\\_Plan.asp](http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Contingency_Plans_and_Management/Oil_Spill_Contingency_Plan.asp)

<sup>19</sup>Recommendations 86, 88, 89, 90, and 95-99

## State Environmental Advisors/ESC

### Background

PB/TCS also noted that the role of the ESC had been a topic of much discussion since the last National Plan Review in 1999. There had been a number of attempts to better define the role, its purpose, functions and needs; yet there was broad acknowledgement from stakeholders consulted during the Review that the role remained misunderstood and undervalued, with a clear need for stakeholders to understand what decisions the ESC is authorised to make.

PB/TCS noted that environmental and scientific advice required for marine oil and HNS incident management is complex and needed to be drawn from a range of disciplines, as varied as biodiversity, economics, oil chemistry, oceanography, light physics, eco-toxicology and fisheries sciences. Across these disciplines, the environmental and scientific roles performed a range of functions across the preparedness, response and recovery phases of incident management.

The Montara incident highlighted a need for clarification of environmental roles and functions for oil spill responses in Commonwealth waters. These issues emerged during this incident largely because the role of the ESC for oils spills in Commonwealth waters was not adequately explained in the National Marine Oil Spill Contingency Plan, was not specifically referred to in the OSRICS structure, and consequently, was confusing in terms of where the position fitted into a response.

An ESC workshop was conducted by AMSA during the course of the PB/TCS project to discuss the environmental and scientific functions within spill response. The discussions focused on the functions and outputs required of the ESC across the three distinct but connected incident management phases: preparedness, response and recovery.

Noting that the current Incident Control System (ICS) structure did not provide a position for the ESC, the ESC workshop participants recognised four environmental and scientific functions within the structure that needed to be recognised. These response functions included:

- Principal Environmental Advisor: to provide direct advice to the IC or the State Marine Pollution Controller regarding overall environmental risk or impact;
- Environmental Information Management: as part of the Planning Unit, to gather information on environmental and scientific matters and the analysis and interpretation of that information in order to guide, for example, the completion of risk assessments, ongoing net environmental benefit analysis, ecosystem sensitivity, dispersant use and clean-up priorities;
- Environmental Supervisor: as part of the Operations Unit to provide appropriate, targeted advice to those personnel involved in shoreline assessments, wildlife management, waste disposal and aerial observation; and
- Environmental Liaison: to provide inter-agency liaison between the IC and environmental agencies (State and Commonwealth), representing the interests of agencies with environmental or other impact issues, such as fisheries, biodiversity or wildlife conservation, national parks or amenity management.

To support the above response roles, the workshop recommended that each National Plan State Committee considers the support of these functions and ensures that the currently nominated ESCs are sufficiently senior and have the appropriate level of delegation within their agency. Each State Committee should also ensure that the ESC role is resourced and supported for inclusion in the NRT and State Response Team. PB/TCS noted that this need was reflected by many stakeholders during their consultation sessions.

Between incidents, the ESC role was considered a pre-planning/preparedness role. PB/TCS considered that this phase should be effectively utilised to prepare and resource Oil Spill Contingency Plans and to ensure guidance for decision-makers in advance of any spill.

The appointment of a (Commonwealth) Science Advisor to oversee the National Plan ESC Network, operating under the Environmental Working Group (EWG) and reporting to NPOG, was seen by PB/TCS as a critical appointment to ensure national clarity, definition and prominence of the ESC role and maintenance of functions. This role would provide critical oversight, and link all State/NT ESCs to ensure robust local environmental advice and input during planning, response and recovery efforts.

PB/TCS noted that AMSA had appointed a Scientific Advisor who has responsibility for the co-ordination of the ESC Network. That position had been in place since 2011.

PB/TCS noted that the ESC role to date was funded through the States/NT, and a number of ESCs had been in the role for some time. ESCs, particularly those that were not members of the NRT, had indicated a limited capacity to undertake this role in some States, as the role is not a key function of their normal agency position. To undertake the ESC role effectively during an incident, significant pre-planning and preparedness was needed to address issues in the relevant State, such as identifying spill risks and threats, reviewing and supporting MoUs, developing and maintaining processes and systems, and ensuring a knowledge base was maintained through training, exercises and appropriate equipment allocation.

PB/TCS reported that a number of stakeholders indicated that funding should be allocated for a minimum of one ESC in each State, or in areas of high risk. PB/TCs considered that the fulltime job of this ESC should be preparedness, planning, local capacity building, maintenance of systems (including OSRA), building relationships with Traditional Owners and building local knowledge. If and when an incident occurred, these individuals could then become a national resource.

### **NPMC consideration**

NPMC did not support the mandatory funding of an ESC position within jurisdictions believing that the Review did not provide sufficient evidence that there was an ongoing issue in this area.

NPMC believed that to determine whether further action was required, State and NT Governments, through their State Committees, should review their current preparedness and response arrangements for the delivery of environment and science advice within their incident management structures. In undertaking this work, the States/NT should also take into account section 7 of the *Pacific Adventurer* Strategic Issues Report.

#### **Outcome 42**

**To determine whether further action is required, State and Northern Territory Governments, through their State Committees, to review current preparedness and response arrangements for the delivery of environment and science advice within their incident management structures.**

## **Expert Scientific Body**

### **Background**

As noted in the Commonwealth Government's response to the Montara incident (Recommendation 88), in order to deliver operational monitoring (Type I monitoring) advice, PB/TCS emphasised that the National Plan would need to ensure expert advice was available at short notice. PB/TCS recommended that an expert advisory body should advise on the setting of appropriate trigger levels for further monitoring, and advise on appropriate courses of action in the event that further monitoring requirements were not implemented, in consultation with SEWPac and AMSA.

Further suggestions by PB/TCS in relation to this function included:

- the provision of regularly updated expert inputs to identify key sensitive species and environments;
- developing and reviewing cost-effective and scientifically rigorous off-the-shelf monitoring programs; and
- providing rapid turnaround scientific advice during an incident.

### NPMC consideration

NPMC noted the PB/TCS's advice as well as AMSA's progress in finalising an agreement with the CSIRO to provide scientific advisory services to the National Plan. NPMC proposed that policy and procedures for the engagement of CSIRO by stakeholders should be developed for the agreement of NPSCC.

#### Outcome 43

**AMSA to finalise an agreement with the CSIRO to provide scientific advisory services to the National Plan. A policy and procedures for the engagement of CSIRO by stakeholders will be developed for the agreement of NPSCC.**

## Post Spill Monitoring

### Background

PB/TCS noted that oil spill monitoring was undertaken at a number of stages before, during, or after a spill and the associated response efforts. Oil spill monitoring programs under the National Plan were guided by the *Oil Spill Monitoring Handbook* with the support of the *Oil Spill Monitoring Background Paper* (AMSA 2003)<sup>20</sup>.

Under current National Plan arrangements, there are two forms of oil spill monitoring recognised in the National Plan. These are defined by the above documents as:

- **Type I monitoring:** which provided information of direct relevance to spill response operations (i.e. information needed to plan or execute response or clean-up strategies); and
- **Type II monitoring:** which related to non-response objectives and included short-term environmental damage assessments, longer-term damage assessments including recovery, purely scientific studies, and all post-spill monitoring activities.

Currently, only Type I oil spill monitoring costs were reimbursed by AMSA under the National Plan IGA, which defined Type I monitoring as the collection of information about the oil and hazardous substances spill, in particular the extent and quantity of contamination and the effectiveness of the clean-up for the purposes of aiding decision-making during shoreline clean-up and on-water operations. Monitoring of cost reimbursements was limited to those incurred during the incident and was subject to assessments of reasonableness and appropriateness in scope, design and subsequent costs (AMSA 2003). Type II monitoring costs were not currently reimbursed, but in some cases, may be recoverable from the spiller's insurer or, in respect of oil tankers, through the International Oil Pollution Compensation Funds.

### NPMC consideration

NPMC recognised that the National Plan 'Pollution Cost Recovery Procedures' needed to be more closely aligned with the International Oil Pollution Compensation Funds Claims Manual, noting in particular the differences that existed with respect to post spill monitoring costs.

#### Outcome 44

**To revise the National Plan 'Pollution Cost Recovery Procedures' more closely with the International Oil Pollution Compensation Funds Claims Manual, to align particularly with respect to post spill monitoring.**

<sup>20</sup>[www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_plan/Contingency\\_Plans\\_and\\_Management/Research\\_Development\\_and\\_Technology/Oil\\_Spill\\_Monitoring.asp](http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Contingency_Plans_and_Management/Research_Development_and_Technology/Oil_Spill_Monitoring.asp)

## Oiled Wildlife Response

### Background

Oiled wildlife preparedness and response measures were raised by a number of stakeholders nationally. It was acknowledged in the National Marine Oil Spill Contingency Plan that the effectiveness of a spill response was sometimes measured on the success of its wildlife rescue and rehabilitation. PB/TCS noted that National Guidelines for the Development of Oiled Wildlife Response Contingency Plans had been developed by AMSA, with the objectives of providing guidance for the immediate and effective protection, rescue, cleaning and rehabilitation of oiled birds, marine mammals, their habitat, and other wildlife resources that were harmed or potentially harmed by a marine oil spill.



### NPMC consideration

NPMC noted the need to recognise the Oiled Wildlife Response as part of the terms of reference for the Marine Pollution Preparedness and Response Technical Group. NPMC also agreed that AMSA should upgrade the oiled wildlife resources within the national equipment stockpiles.

#### **Outcome 45**

**The NPSCC to include Oiled Wildlife Response as part of the terms of reference for the Marine Pollution Preparedness and Response Technical Group, and will task the Group to develop a proposal for a national oiled wildlife capability.**

#### **Outcome 46**

**AMSA to upgrade the oiled wildlife resources within the national equipment stockpiles.**

## Research and Development

### Background

PB/TCS found the following in relation to the National Plan Research Development and Technology (RD&T) strategy, program and policy:

- the RD&T policy, program, strategy and associated annexes needed to be updated and reviewed by NPOG and its subgroups in consultation with stakeholders, such that past, current and future projects were identified and programmed into National Plan funding rounds. These projects should be selected by NPOG and its subgroups and approved by NPMC on the basis of the guiding principles of the RD&T strategy;
- a process for monitoring and communicating oil and chemical pollution RD&T advances to National Plan stakeholders needed to be established by NPOG, through all AMSA newsletters and forums such as a National Plan/NMERA quarterly e-newsletter. The research outcomes from the RD&T program should communicate how research outcomes can be applied;
- there appeared to be a strong need to develop a more substantive rigorous process for identifying national and international RD&T activities related to spill response. This clear selection process needed to be developed and implemented in the RD&T strategy, including details as to how projects were evaluated to achieve high benefit to cost ratios; and
- membership and activity of the NPOG and its subgroups should be investigated in relation to their ongoing contribution to the identification of research needs across the spill response community, and re-defined in the National Plan IGA.

### NPMC consideration

NPMC endorsed a review of the National Plan RD&T Policy.

#### **Outcome 47**

**NPSCC to conduct a review of the National Plan RD&T Policy. The policy review will consider:**

- **the outcomes of previous RD&T, i.e. has the current RD&T program delivered value for money, improved response processes etc.;**
- **future objectives for an RD&T program; and**
- **means of delivering effective RD&T within the National Plan, e.g. monitoring international developments, investment in research programs, collaboration etc.**

## 12. MONTARA COMMISSION OF INQUIRY

The Final Government Response to the Report of the Montara Commission of Inquiry contained several references to the National Plan/NMERA Review, both in the actual recommendations and in the Government's response and implementation<sup>21</sup>.

Recommendation 86 provided that:

*'The National Plan should be reviewed to clarify the arrangements to apply in Commonwealth waters regarding key roles and responsibilities, including in relation to the ESC, in the event of an oil spill. This should also address any training required.'*

A number of outcomes of the National Plan/NMERA review address this recommendation, in particular the development of a new Marine Pollution Contingency Plan, the Marine Incident Emergency Committee for Commonwealth waters<sup>22</sup> and the new scientific advisory arrangements with the CSIRO<sup>23</sup>.

Recommendation 87 related to SEWPaC<sup>24</sup> participation in training programs and exercises relevant to an oil spill in the marine environment. Under the new governance arrangements for the National Plan/NMERA<sup>25</sup>, DSEWPaC will have more direct involvement to National Plan training activities and exercises.

Recommendation 88 provided that:

*'The National Plan should be revised to ensure that it fully comprehends environmental matters and that it recognises the importance of the prompt implementation of Scientific Monitoring to facilitate the assessment of the environmental impacts of an incident.'*

A number of outcomes of the National Plan/NMERA review address this recommendation, in particular:

- States/NT to review current preparedness and response arrangements for the delivery of environmental and science advice<sup>26</sup>;
- new agreement with the CSIRO to provide scientific advisory services<sup>27</sup>;
- development of a proposal for a national oiled wildlife capability<sup>28</sup>;
- consideration of the need to expand the NRT skill sets to include environmental and scientific advisers<sup>29</sup>; and
- review and enhancement of OSRA<sup>30</sup>.

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<sup>21</sup>[www.ret.gov.au/Department/responses/montara/cwllth-response/Pages/cwllth-response.aspx](http://www.ret.gov.au/Department/responses/montara/cwllth-response/Pages/cwllth-response.aspx)

<sup>22</sup>see section 6

<sup>23</sup>see section 11

<sup>24</sup>At the time DEWHA

<sup>25</sup>see section 4

<sup>26</sup>see section 11

<sup>27</sup>see section 11

<sup>28</sup>see section 11

<sup>29</sup>see section 8

<sup>30</sup>see section 8

Recommendation 91 proposed that:

*'The National Plan should be reviewed to ensure that the costs associated with both preparedness and response capabilities are equitably shared between the shipping and offshore petroleum industries.'*

To address this and a number of other recommendations relating to legislation, a Better Regulation Ministerial Partnership was established by the Attorney-General's Department to undertake a legislative review of Commonwealth legislation applicable to offshore petroleum and the marine environment. At the time of preparing this Report, the Government is considering the findings of the Legislative Review.

Recommendation 93 made reference to a number of issues to be included in the National Plan/NMERA review, including:

- the need to take into account the risks associated with offshore oil and gas exploration;
- revisiting the underlying risk assessment;
- ensuring effective co-ordination of response arrangements across Commonwealth/State/NT borders; and
- exploring the state of readiness of equipment in the context of the future expansion of the petroleum industry.

The Risk Assessment undertaken by DNV during the National Plan/NMERA Review provided the basis for these issues to be address in a number of outcomes, including:

- RET now being part of the new National Plan/NMERA Governance arrangements, in particular the new Marine Incident Emergency Committee for Commonwealth waters<sup>31</sup>;
- implementation of a dynamic risk model<sup>32</sup>; and
- upgrading of the Dampier National Plan equipment stockpile<sup>33</sup>.

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<sup>31</sup>see section 4

<sup>32</sup>see section 7

<sup>33</sup>see section 8

## **13. CONCLUSIONS**

The effectiveness of the National Plan and NMEMA has been demonstrated in a number of serious maritime incidents. As shown throughout this Report, a number of improvements have been identified and AMSA, as manager of the National Plan, has made resolutions for their implementation over the next 18 months. It is important to recognise the existing arrangements are neither broken nor flawed and continue to serve Australia well domestically as we continue to meet our international obligations under the OPRC Convention and OPRC-HNS Protocol.

The Australian risk profile is undergoing continual change as differing sectors of industry expand and contract according to international markets and resource status. The Report's resolutions, when implemented, will ensure the National Plan and NMEMA's effectiveness and relevance in the future whilst streamlining management and engaging more fully with stakeholders.

## ATTACHMENT A – TIMELINE OF EVENTS

- 1960 Commonwealth Government accepts *International Convention for the Prevention of Pollution of the Sea by Oil, 1954* and initial division of responsibilities between Commonwealth and States is established.
- 1970 The grounding of the *Oceanic Grandeur* (1,100 tons of crude oil) provided a catalyst to develop a national approach to control of oil pollution.
- 1971 A meeting between Commonwealth and State/NT Ministers agrees on the 'basic divisions of responsibility for combating pollution of the sea by oil from ships'.
- 1972 The Commonwealth, with agreement of the States/NT and industry, enacts legislation to raise a shipping levy - *Protection of the Sea (Shipping Levy) Act, 1972* and *Protection of the Sea (Shipping Levy Collection) Act, 1972*. Minister's second reading speech noted that it is to be spent on the unrecovered operating costs of the National Plan. These costs have '2 components - firstly, the standing charges ..... and, secondly, operating costs which cannot be recovered from the actual polluter.'
- 1973 National Plan commences with cash funding contributions from the Commonwealth Government, States/NT Governments and oil industry, as well as the levy collected from shipping.
- 1974 *Syigna* oil spill, Newcastle (700 tonnes).
- 1978 Five year review conducted by Advisory Committee on Marine Pollution.
- 1979 Offshore Constitutional Settlement entered into by Commonwealth and State Governments. This provided agreement to resolve jurisdiction and control for various matters relating to the waters around Australia. The Settlement provides, among other matters, that the arrangements for 'ship-sourced marine pollution' that existed prior to 1975 (the States/NT have jurisdiction over matters out to 3 nautical miles and the Commonwealth beyond that) would continue. No reference to funding is apparent.
- 1979 *World Encouragement* oil spill, Botany Bay (95 tonnes).
- 1981 *Anro Asia* oil spill, Bribie Island QLD (100 tonnes).
- 1987 *Nella Dan* oil spill, Macquarie Island, Tasmania (125 tonnes).
- 1988 *Korean Star* oil spill, Cape Cuvier WA (600 tonnes), *Al Qurain* oil spill, Portland, Victoria (184 tonnes) and *Sir Alexander Glen* oil spill, Port Walcott WA (450 tonnes).
- 1991 AMSA established by the Commonwealth Government with statutory functions and powers, which include combating pollution of the marine environment. AMSA takes over the role of administering the National Plan from the Commonwealth Department of Transport and Communications.



*Oceanic Grandeur*



*Syigna*



*Nella Dan*



*Korean Star*

1991 *Sanko Harvest* oil spill, Esperance WA (700 tonnes) and *Kirki* oil spill off WA coast (17,280 tonnes).



*Sanko Harvest*

1991 Australian Marine Oil Spill Centre Pty Ltd (AMOSC) commenced operation as a subsidiary of the Australian Institute of Petroleum to coordinate the oil industry's mutual aid arrangements and participation of the industry in the National Plan. Industry equipment and personnel are available for hire to AMSA as part of the National Plan.

1992 Commonwealth accedes to *International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) 1990*. This establishes an obligation on the Commonwealth to establish national arrangements for responding to oil pollution incidents.

1992 *Era* oil spill, Port Bonython SA (300 tonnes).

1993 *The High Level Working Party to Review the Australian National Plan to Combat Pollution of the Sea by Oil* established by ATAC Ministers in 1991 provides its report which is accepted by the Ministers for implementation. The Report includes recommendations to clarify the organisation and administration of the National Plan, including the division of responsibilities between the Commonwealth, States/NT and the oil industry. An additional \$5.6 million of equipment is to be purchased.

1995 The Australian National Audit Office (ANAO) reports on the National Plan and makes recommendations on improving the National Plan including the division of responsibilities (including equipment storage and personnel training), and the future role of AMSA.

1995 *Iron Baron* oil spill, Hebe Reef Tasmania (325 tonnes).

1997 Fixed Wing Aerial Dispersant Capability introduced, jointly funded by AMSA and AIP.

1998 The 'National Plan to Combat Pollution of the Sea by Oil' officially becomes the 'National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances'.

1998 A report on *Port Reform and the National Plan* by Thompson Clarke Shipping for AMSA is tabled at the National Plan Advisory Committee. The Report makes recommendations 'reminding States/NT of their National Plan responsibilities which must be carried out if Australia is to comply with its obligations under the International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC).'



*Iron Baron*

1998 *The Report of the Ministerial Advisory Group on Oceans Policy* recommends that the National Plan should be supported.

- 1998 The Commonwealth releases Australia's Ocean Policy and indicates that it will allocate funding to specific measures. Among other things the Policy outlines those matters that *'the Commonwealth has responsibility for and states that 'the Government will continue to support the enhanced National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (the National Plan).'*
- 1999 Oil Spill Response Atlas (OSRA) launched, following the allocation of \$1 million from the Commonwealth Natural Heritage Trust, Coastal and Clean Seas Program.
- 1999 *Laura D'Amato* oil spill, Sydney NSW (250 tonnes) and Mobil refinery oil spill, Port Stanvac SA (230 tonnes).
- 2000 National Oil Spill Trajectory Model (OSTM) launched.
- 2001 Report of the 2000 Review of the National Plan released. The report notes that since the last comprehensive review in 1993, the operational aspects of the National Plan have worked well and met the expectations of all parties. Two consultancy projects were commissions – a risk assessment and an analysis of the management arrangements. Key outcomes included a new management structure oversighted by the National Plan Management Committee and development of an Inter-Governmental Agreement.
- 2002 Inter-Governmental Agreement on the National Plan to Combat pollution of the Sea by Oil and Other Noxious and Hazardous Substances signed by Commonwealth and State/NT Ministers.
- 2006 National Maritime Emergency Response Arrangement (NEMERA) implemented and Maritime Emergency Response Commander appointed as the national decision maker who will coordinate and manage emergency response action in the event that there is a high risk of significant pollution from a maritime casualty in Commonwealth waters.
- 2006 *Global Peace* oil spill, Gladstone Queensland (25 tonnes).
- 2008 Chemical Spill Trajectory Model introduced.
- 2009 *Pacific Adventurer* oil spill, Cape Moreton Queensland (270 tonnes) and Montara Wellhead platform release (approximately 4,750 tonnes).
- 2010 Report of the Montara Commission of Inquiry released, with 15 recommendations relevant to the National Plan.
- 2011 Third National Plan Review.



*Laura D'Amato*



*Global Peace*



*Pacific Adventurer*



*Montara Wellhead*

# ATTACHMENT B – TERMS OF REFERENCE FOR RISK ASSESSMENT PROJECT

## Background

A review of the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (the National Plan) and National Maritime Emergency Response Arrangements (NEMERA) is to be undertaken during FY2010/11. The National Plan was last comprehensively reviewed in the FY1999/2000. NEMERA was introduced in 2006 and is now due for review. The new review is to examine the capacity of the National Plan to provide an adequate and effective response to pollution of the sea by oil and other noxious and hazardous substances, focussing on and making recommendations about those matters where improvements are warranted. The review will also examine the suitability and adequacy of NEMERA as a risk reduction strategy.

In order for these areas to be properly reviewed, a risk assessment is required for shipping and offshore oil and gas exploration and production, that:

- accurately represents Australia's current oil spill risk profile;
- can be updated to reflect future vessel-movement-patterns and oil and gas industry;
- activity as well as changes in coastal usage and environmental and cultural information;
- is a credible further development of the FY1999/2000 risk assessment;
- is forward looking and provides forecasts based on trends and scenarios;
- can be further developed over time;
- is delivered to the agreed time line and at reasonable cost;
- provides data and calculations in a format that can be used for future computer; and
- modelling or simulations.

The risk assessment is required to provide a report that can be taken into account during the overall National Plan Review.

During the 1990's, assessment of the risk of oil spills in Australia was based primarily on a 1991 Bureau of Transport and Communications Economics study. That study covered risks of spills from oil tankers, platforms and pipelines and gave results that were acknowledged at the time, as potentially pessimistic.

A further risk assessment was undertaken as part of a review of the National Plan in FY1999/2000. The outcomes indicated that there were some key areas of relatively high risk around the Australian coast. This included most of the east coast of Queensland, the southwest and northwest areas of Western Australia and the major port areas around Sydney and Melbourne.

The distribution of risks between ships at sea, ports and offshore facilities indicated that ports were the major overall contributor to risk levels. This arose as the density of ships and the frequency of operations associated with a spill risk were highest in and around ports. The risk assessment concluded that ships at sea could contribute to risks around the entire coast, but at relatively low levels in any specific location due to the low density of ships throughout Australian waters. The assessment also concluded that "offshore facilities are low contributors to the overall risk level across Australia, but are significant contributors to the risks in their local areas as they are concentrated into a few locations."

The results of the FY1999/2000 risk assessment were generally in agreement with previous studies, and provided the basis for management, policy and decision making arrangements for the National Plan up until the present. Based on this data, the National Plan currently has a notional capacity to respond to an oil spill of up to 21,000 tonnes with equipment stockpiled in Australia. This is based on a scenario involving the grounding of a loaded oil tanker with the loss of up to two full tanks of crude oil. Consequently, a larger spill could require additional resources sourced from overseas.

## Deliverables

The consultant will review and report by location (within Australia's Exclusive Economic Zone and offshore Territories) on the current level of risk of pollution of the sea, coastline and ports of Australia by oil from ships (tankers and non-tankers) offshore installations (fixed and floating) and exploration rigs, taking into account:

- environmental sensitivity – considering the susceptibility of the environment, at the location, to damage by oil pollution, the natural persistence of oil in that environment and the expected ease of cleanup and recovery after an oil spill;
- socio-cultural impacts including affects on local communities and amenities;
- industries (e.g. fishing, tourism, aquaculture) which would be most adversely affected ecologically or financially by a spill;
- the extent to which risk is minimised by the existing NEMRA, in particular the arrangements for emergency towage;
- vessel size, quality, distribution, density, and movement pattern;
- amount of oil used as bunkers (heavy fuel oil and marine diesel) and/or carried as cargo (all petroleum products);
- properties of oil shipped as cargo and used as bunkers;
- areas that pose a high level of difficulty to safe navigation taking into account prevailing weather patterns;
- changes in the operation and construction of ships since the 1999/2000 risk assessment was completed, such as the continued phase-in of double hulled tankers;
- amount and properties of oil, gas and condensate produced offshore and transported by vessels/ pipeline; and
- adjacent neighbouring countries (for example: traffic passing through the Torres Strait, PNG and the Kutubu production facility and its affect on Torres Strait; East Timor and the development of its offshore oil and gas production facilities).

The consultant will also review and report on the future level of risk of pollution of the sea, coastline and ports of Australia by oil from ships (tankers and non-tankers) offshore installations (fixed and floating) and exploration rigs, taking into account:

- new requirements in the International Convention for the Prevention of Pollution from Ships (MARPOL) for the protective location of bunker tank, a new MARPOL Regulation addressing ship-to-ship transfers and possible phasing out of the use of heavy fuel oil as bunker fuel over the next 10 years;
- increasing activity in the offshore oil and gas exploration sector and the location of offshore production and pipeline facilities; and
- future trends, including proposed new ports, expansion of ports and projected changes to trading patterns.

Incident data from Australia and overseas should be used to establish the overall and relative risks, including credible spill type, size, frequency and severity. The magnitude of potential loss (a component of risk, the other being probability of the loss), should include consideration of qualitative criteria, for example areas of outstanding beauty or natural value.

The process should include identification, analysis and assessment of risk. It is important that areas of low traffic are not automatically considered low risk areas. Risk also needs to include scenarios of low traffic and high environmental sensitivity, for example the World Heritage value associated with Macquarie Island.

To assist in reviewing the effectiveness of NEMRA, the risk of oil spill must be able to be categorised as resulting from:

- ship grounding resulting from loss of propulsion and/or prevailing weather;
- ship grounding resulting from navigational error;
- ship to ship collisions; and
- offshore hydrocarbon exploration, production and export.

From a calibration and indicative perspective, previous risk assessments should be reviewed against incident history to ground truth the process.

In addition to any new data developed, existing data to be taken into account in the review may include data from:

- the Oil Spill Response Atlas (OSRA);
- the Marine Oil Spill Equipment System (MOSES);
- the risk assessment undertaken as part of the FY1999/2000 Review of the National Plan;
- NEMRA (size, capacity and location Emergency Towing Vessels);
- relevant agencies including:
  - State Maritime Transport Departments
  - Commonwealth and State Environment Protection Agencies
  - Ports Corporations
  - International Tanker Owners Pollution Federation (ITOPF)
  - International Maritime Organization (IMO)
  - European Maritime Safety Agency (EMSA)
  - US Coastguard and EPA
  - the Department of Resources, Energy and Tourism
  - Australian Bureau of Agricultural and Resource Economics
  - Australian Petroleum Production and Exploration Association
  - the Australian Marine Oil Spill Centre
  - GeoSciences Australia
  - International Petroleum Industry Environmental Conservation Association
  - International Tanker Owners Pollution Federation Limited
  - International Oil Pollution Compensation Fund;
- relevant reports including:
  - recommendations from recent exercise and Incident Analysis Reports
  - International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Torres Strait Risk Assessment Workshop 2004
  - the Maritime Safety Queensland Risk Assessment
  - the Marine Safety Victoria Risk Assessment (if completed)
  - the Study of the National Salvage Capacity 2002
  - Ports and Waterways Safety Assessment (PAWSA) Risk Assessment
  - Workshops 2009; and
- recent relevant incidents, including near misses where appropriate, within Australian waters and overseas.

Where appropriate, the project should obtain guidance from:

- Quantified Risk Assessment using the IMO Formal Safety Assessment (FSA);
- methodology;
- IMO Manual on Oil Spill Risk Evaluation and Assessment of Response Preparedness;
- AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines;
- ISO/IEC 31010 Risk Management – Risk assessment techniques;
- IMO Particularly Sensitive Sea Area guidelines; and
- the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) – Significant Impact Guidelines 1.1- Matters of National Environmental Significance.

Taking the above into consideration, the consultant should indicate the criteria against which risk will be assessed and the structure of the analysis.

Also, as a risk assessment of Hazardous and Noxious Substances (HNS) carried in bulk was undertaken for the National Plan in 2006, it is not proposed to duplicate this work and this risk assessment therefore should focus on oil. However, in undertaking this work, the consultants should note any potential source/s of relevant HNS-related data that could assist in future refining of the risk assessment.

A critical outcome of these will be the ability for National Plan stakeholders to access oil spill and other pollution risk information and thus engage with the pollution risk management regime.

The Australian risk profile established by this new capability will become the intellectual property of the Australian Maritime Safety Authority on acceptance.

All work product used in the undertaking of the project will become the intellectual property of the Australian Maritime Safety Authority, specifically:

- all data, at finest level (i.e. individual ship level), in electronic format;
- all calculations/algorithms used to undertake the risk assessment;
- full descriptions of methodology including models, algorithms and calculations (included in the report and electronic copy);
- detailed risk components and risk indexes for each segment/port in electronic format with description on how risk was determined;
- details of all mitigation measures taken into account for each cell - pilotage, NMERA, traffic separation, current location of response equipment etc; and
- details of all factors taken into account to calculate future risk.

# ATTACHMENT C – TERMS OF REFERENCE FOR NATIONAL PLAN/NMERA REVIEW PROJECT

## Purpose

The Australian Maritime Safety Authority (AMSA) intends to undertake a review of Australia's:

- marine oil and hazardous and noxious substance (HNS) spill preparedness and response capability, as provided in the National Plan to Combat Pollution of the Sea by Oil and Other Hazardous and Noxious Substances (“the National Plan”); and
- the National Maritime Emergency Response Arrangements (“NMERA”), which includes emergency towage capability.

The purpose is to determine if current arrangements are adequate to provide an effective response to marine casualties and pollution of the sea by oil and HNS, and where deficiencies are identified, make recommendations to rectify them.

The review will provide analysis of accountabilities, roles and resources required to meet the needs of AMSA and its National Plan/NMERA stakeholders for marine casualties and marine oil/HNS spill preparedness and response. The review will provide details on the gaps in response preparedness and capabilities and any efficiencies that can be gained through improvements as well as recommendations on improvements to the preparedness and response regime currently in place in Australia.

## Background

The last review of the National Plan was undertaken during the FY1999/2000. At that time, it was generally agreed that the National Plan should be reviewed again after 10 years, unless significant issues emerged that warranted a shorter time frame.

There have been significant changes to the operating environment for National Plan agencies since 2000, including *inter alia*:

- changes in shipping patterns and associated risks as a result of expansion of the petroleum, LNG and minerals sectors;
- ongoing port privatisation and rationalisation of the workforce resulting in constriction of the workforce within the ports sector (a major source of oil spill response personnel) and ageing of the workforce in that sector as well as a more general loss of experienced oil spill personnel from government and industry, with impacts upon the National Response Team;
- changes in response management systems, including a trend towards the “all hazards/all agencies” model of emergency planning and management, and adoption of the Australian Inter-Service Incident Management System (AllIMS) by emergency response agencies;
- new incident response management technologies;
- entry into force for Australia of the 2000 Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol) in June 2007 and implementation of response systems to meet the Protocol's requirements;
- changes in the aviation industry (in particular availability of suitable pilots and aircraft) and the potential impact on Australia's ability to maintain a cost-effective aerial dispersant spraying capability;
- amendments to Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL) which may result in marine diesel oil; marine gas oil and LNG replacing heavy fuel oil as the primary bunker fuel used by ships by 2020, with progressive phasing out to commence in 2012;

- increase in offshore oil and gas ship-to-ship transfer operations, particularly in remote locations;
- quality of ships including factors such as crew competency;
- modernising training practices to meet national guidelines and achieve best practice, i.e. qualification and competency based;
- increasing activity in the offshore petroleum and gas exploration and production industry in remote locations and in deep water; and
- relevant outcomes of from the Montara Commission of Inquiry and strategic recommendation from Incident Analysis team reports produced since the last review.

The aim of the National Maritime Emergency Response Arrangement (NMEMA) is to protect the marine environment from actual or potential ship-sourced pollution. This is done by enhancing response arrangements under the National Plan through ensuring the continuing provision of an appropriate level of emergency towage capability around the Australian coastline and the enhancement of the Emergency Response management framework, which includes the appointment of a single national decision maker to coordinate a response to a maritime casualty.

AMSA implemented the national Emergency Towage Program in July 2006 and appointed the national decision-maker who will coordinate and manage Emergency Response action in the event that there is high risk of significant pollution from a maritime casualty in Commonwealth waters.

## **Context**

The Review should be placed in the context that AMSA has a statutory function to combat pollution in the marine environment.

## **Review Objectives**

The objectives of the review are to assess how well Australia meets its obligations under the OPRC 90 Convention/OPRC-HNS Protocol and whether the NMEMA arrangements continue to meet Government and stakeholder expectations. In making this assessment the following issues are to be considered:

- adequacy of the Inter-Governmental Agreements;
- adequacy of the existing domestic legal, regulatory, governance and procedural regime and the managements and committee arrangements giving effect to the National Plan and NMEMA;
- suitability and adequacy of the NMEMA as a risk reduction strategy;
- effectiveness of current functions and resourcing levels to deliver on required outputs and services;
- capacity to respond to identified marine oil spill benchmark (holing of two holds on an oil tanker with a release of 21,000 tonnes of oil) and appropriateness of benchmark;
- appropriateness of current hardware/equipment holdings and locations;
- gaps and efficiencies within the current structure;
- succession planning and training arrangements;
- adequacy and appropriateness of funding mechanisms to deliver the required outcomes;
- efficiency of cost recovery arrangements; and
- whether the current arrangements for a 10 yearly review of the National Plan remain appropriate.

The secondary objective of the review is to suggest any changes that may be necessary to the National Plan both in the immediate future and over the next 10 years taking into account:

- ship standards, predicted increases in ship traffic, port developments and offshore developments in Australian waters;
- the implications of changes to international regulations and standards which will, for example, require bunker tanks to be built in protected locations, a move to cleaner burning fuels and improved navigational equipment on board ships;
- the resource and response constraints associated with the increasingly remote production and transshipment locations; and
- the restrictions and constraints posed by the increasing numbers of marine conservation and preservation areas, particularly in remote locations.

## Risk Assessment

A separate project – “Assessment of the risk of pollution from Marine Oil Spills in Australian Ports and Waters” is being undertaken as part of the overall review process. The results of this risk assessment will be provided and will need to be taken into account during this review project.

## Scope

The following table defines some of the boundaries:

The scope IS:	The scope IS NOT:
Review the current Australian capability to respond to all types of marine oil and HNS spills based on the Tiered level of response	For the consultants to rewrite the National Plan
Assess the capability needs of response and preparedness to marine based oil spills over the next ten years to 2020	Assess the organisational structure of AMSA
Assess gaps within the current system and recommend options to close the gaps	Consider Australia as a stand alone response agency – regional capability is also to be considered

## Deliverables

The key deliverables from this review are:

- an analysis of how Australia is fulfilling the objectives of the OPRC90 Convention and OPRC-HNS Protocol, i.e.
  - oil pollution emergency plans/contingency plans for ships, offshore units and ports (OPRC Article 3 and OPRC-HNS Article 3),
  - incident reporting (OPRC Article 4 and OPRC-HNS Article 3),
  - national system for responding promptly and effectively to pollution incidents (OPRC Article 6 and OPRC-HNS Article 4),
  - international co-operation (OPRC Article 7 and OPRC-HNS Article 5);
  - R&D (OPRC Article 8 and OPRC-HNS Article 6),
  - Technical Co-operation (OPRC Article 7 and OPRC-HNS Article 9), and
  - bilateral/multilateral co-operation (OPRC Article 8 and OPRC-HNS Article 10);

- an analysis of current and future resourcing to meet the OPRC 90 Convention and OPRC-HNS Protocol;
- an analysis of the suitability and adequacy of the NMERA as a risk reduction strategy;
- appropriate consultation with staff and key stakeholders on efficiency and effectiveness of the current system and any potential areas where efficiency and effectiveness can be improved; and
- a report covering all bullet points under the 'review objectives' and the 'scope'.

The Request for Tender (RFT) will detail the requirements for the contractor to provide a project plan around how the review will be conducted including how consultation will be undertaken with relevant stakeholders. The successful contractor will then work with the Project Manager to complete a plan of the review.

## **ATTACHMENT D – TERMS OF REFERENCE FOR STRATEGIC STAKEHOLDER GROUP**

Taking into account the outcomes of the 13th session of the National Plan Management Committee<sup>34</sup> (May 2010), a Strategic Stakeholder Group is to be established to provide the reference group for the National Plan/NMERA review and risk assessment.

Noting that since the NPMC meeting in May 2010, the Terms of Reference for the Review have been expanded to include the scheduled review of the National Maritime Emergency Response Arrangements (NMERA). Membership of the Strategic Stakeholder Group (to be chaired by the AMSA Project Manager, Toby Stone) will comprise:

- all current members of the National Plan Management Committee;
- Shipping Australia Limited (SAL);
- Australian Petroleum Production and Exploration Association;
- Maritime New Zealand;
- London Offshore Consultants (Australia) – for independent advice and scrutiny of issues related to maritime casualties;
- Australian Maritime Safety Authority (AMSA);
- Department of Sustainability, Environment, Water, Population and Communities;
- Department of Resources, Energy and Tourism; and
- Ports Australia.

The Group is expected to meet twice during the project being conducted by Parsons Brinckerhoff/Thompson Clarke. The aim of these meetings will be to provide input on:

- The stakeholder consultation outcomes, in particular to ensure that the stakeholder input is appropriately balanced and relevant in the national context; and
- The issues identified by the consultants.

The first meeting will be to discuss the Stage 1 Consultation Summary Report. The second meeting will be to discuss the Draft Report. The secretariat for the group will be provided by AMSA.

Group input with respect to both stages is expected to include document review and a one day meeting. The precise timing and location of these meetings will be determined by consultation between the Project Manager and consultants and the Strategic Stakeholder Group advised.

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<sup>34</sup>The National Plan Management Committee comprises: Australian Maritime Safety Authority, Department of Infrastructure and Transport, Great Barrier Reef Marine Park Authority, Ports Australia, Australian Shipowners Association, Plastics and Chemicals Industries Association, Australian Institute of Petroleum, Queensland, New South Wales, Victoria, Tasmania. South Australia, Western Australia, and Northern Territory.

# ATTACHMENT E – NATIONAL PLAN MANAGEMENT STRUCTURE DIAGRAM

