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A NATIONAL REVIEW OF AUSTRALIA'S MARITIME ENVIRONMENTAL EMERGENCY RESPONSE ARRANGEMENTS

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ABSTRACT 299987:

Australia's National Plan for Maritime Environmental Emergencies ('the National Plan') is a cooperative national strategy for the preparing, responding and recovering from maritime casualty and marine pollution incidents. A review of the National Plan was conducted between 2011 and 2012 following a series of shipping and offshore petroleum incidents which presented the most significant challenges to National Plan since its inception in 1973.

The Review incorporated two streams of work – a national risk assessment modelled the current and 10 year outlook of the marine pollution threat to Australia and a capability analysis, involving consultation with over 90 stakeholder groups, identified areas for improvement in national preparedness.

Forty-seven recommendations were forthcoming from the review including:

- Implementing a modern governance model for the National Plan, clarifying responsibilities and providing for the formal engagement of stakeholders.
- Alignment of planning and response systems with mainstream emergency services to improve the national response capability.
- Implementing a single response arrangement for maritime casualty and oil and chemical pollution.
- Addressing gaps in capability, including the development of a national chemical response capability, nationally accredited training and succession planning for the National Response Team.

This paper describes the conduct of the Review, the significant outcomes for Australia's preparedness and the ongoing program to embed these outcomes into all levels of response planning in Australia.

BACKGROUND:

The 2011/12 Review of the National Plan for the Combat of the Sea by Oil and the National Maritime Emergency Response Arrangements (AMSA 2011) provided a timely opportunity to critically assess Australia's capability to respond to maritime casualty and marine pollution incidents. Not only were these response arrangements due for review, but a series of maritime casualty and shipping and offshore petroleum marine pollution incidents preceding the Review had subjected the National Plan and NMERA to a significant scrutiny.

The outcomes of the Review were underpinned by two projects – a national risk assessment and capability assessment – and a comprehensive stakeholder engagement

program. While finding that the National Plan and NMERA had provided effective response systems, the recommended a number of fundamental changes to enable these systems to meet the future maritime environment. This paper provides a narrative of the conduct of the Review and the implementation of the key outcomes.

National Plan for the Combat of the Sea by Oil and Other Noxious and Hazardous Substances

The National Plan for the Combat of the Sea by Oil and Other Noxious and Hazardous Substances was established in 1973 as an integrated Government and industry organisational framework to respond to marine pollution incidents. The Australian Maritime Safety Authority manages the National Plan on behalf of Australian Commonwealth and state governments, the petroleum, shipping, port and chemical industries.

As National Plan designates the competent national and local authorities for marine pollution response and also provides:

- National governance of marine pollution response arrangements through the National Plan Management Committee, reporting to Governments and industry stakeholders.
- the National Oil and Chemical Spill Contingency Plans;
- detailed state government, local and industry contingency plans;
- strategically position equipment around the Australian coastline; and
- a comprehensive training program.

National Maritime Emergency Response Arrangements

The National Maritime Emergency Response Arrangements (NMERA) was established in 2008 in response to the House of Representatives Standing Committee on Transport and Regional Services, Ship Salvage Inquiry into Maritime Salvage in Australian Water ('the Neville Report'). The NMERA sets out the nationally agreed arrangements for the management of maritime casualty, including a contracted emergency towage capability and a regulatory framework to support a coordinated approach to emergency response issues.

CONDUCT OF THE REVIEW:

The Review was commissioned by the NPMC and terms of reference agreed for the conduct of Review. The NPMC also agreed to the formation of a Strategic Stakeholder Group (SSG), formed from the membership of NPMC, plus other government agencies and industry stakeholders with interests in the National Plan arrangements.

The Review was underpinned by two projects:

- an assessment of the risk of pollution from marine oil spills in Australian ports and waters (Det Norske Veritas: 2011); and
- an analysis to determine the adequacy of the National Plan and NMERA arrangements.

The outcomes from these projects, discussed below, were considered by SSG in the development of the final Review recommendations.

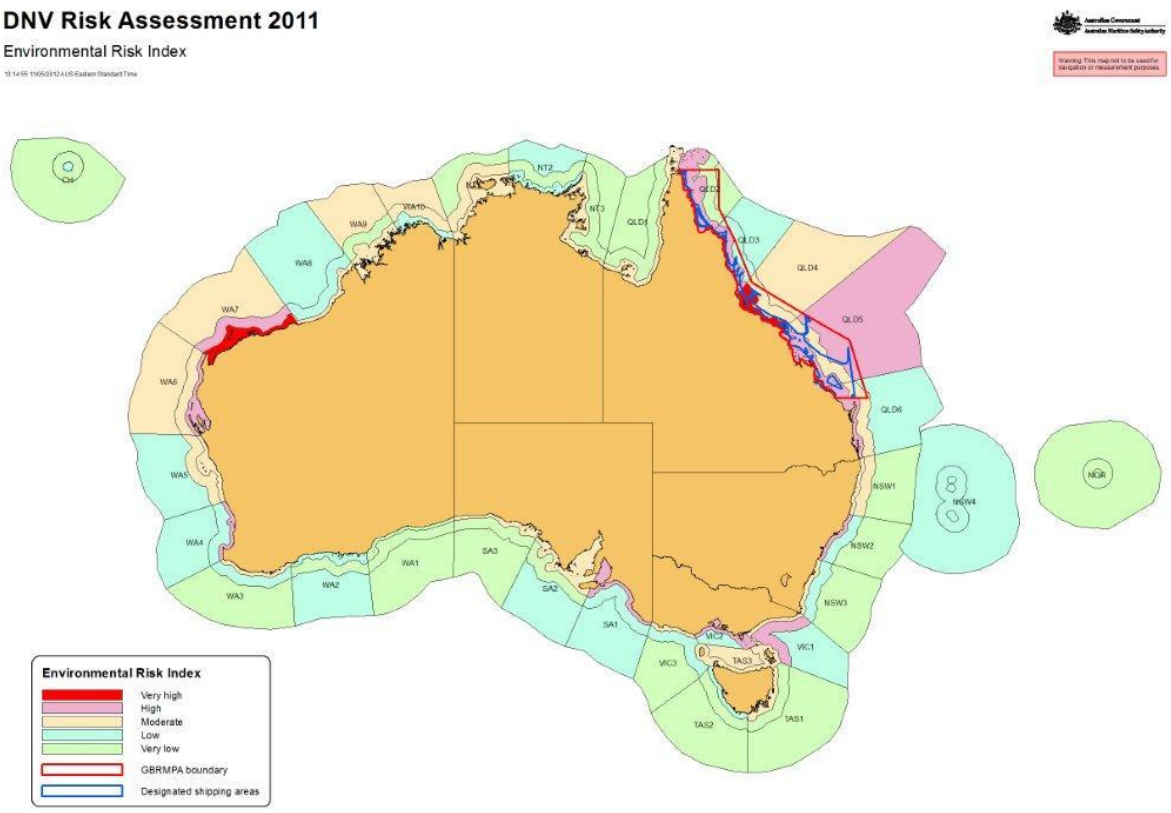
NATIONAL RISK ASSESSMENT:

The 2011 Risk Assessment modelled the marine pollution threat to the Australian coastline over a ten year timeframe. The risk model divided the Australian Exclusive Economic Zone into 120 sub-regions and evaluated each in terms of oil spill risk and environmental sensitivity. Furthermore the model took account of the existing preventative measures that were in place at the time of the assessment, including:

- Requirements for new vessels to have double hulls.
- Traffic separation schemes.
- Vessel traffic Services.
- Compulsory pilotage areas; and
- Emergency Towage Vessels, including mobilisation and transit times.

The risk assessment identified significant changes in the risk profile for Australia (Figure 1), with increased risk in six regions– northern Queensland, central and eastern Victoria, eastern South Australia, the north-west of Australia, the Northern Territory and Australia's offshore areas. Two specific areas were identified as being of very high risk – central Queensland (within the Great Barrier Reef) and north-west Western Australia - each of which is associated with significant mineral exports.

Figure 1 – Australian Risk Profile 2011



The risk assessment also identified trends associated with various sectors within the maritime industry to determine how the risk profile could be expected to change over time (Figure 2).

Figure 2 – Australian Risk Profile by Source

Source	Environmental Risk Index 2011	Environmental Risk Index 2012	Change in risk (%)
Trading ships at sea	2.6	5.0	91
Trading ships in port	4.5	10.9	141
Small commercial vessels	0.1	0.1	0
Offshore production	0.6	0.4	-28
Offshore drilling	0.2	0.2	0
Shore based	1.1	1.2	14
Total	9.1	17	96

The model has predicted significant increases in shipping risk by 2020 -91% for trading ships at sea and 141% for trading ships at port. However it also predicts a reduction in offshore petroleum risks associated with an overall decrease in crude oil production.

CAPABILITY ASSESSMENT:

Phase 2 of the Review assessed the adequacy of the National Plan and NMERA to provide an effective response to maritime casualty and marine pollution incidents. The Capability Assessment considered:

- The adequacy of the Inter-Governmental Agreements;
- The adequacy of the domestic legal, regulatory, governance and procedural regime.
- The suitability of the NMERA as a risk reduction strategy.
- Effectiveness of current functions and resourcing levels.
- Appropriateness of equipment holdings and locations.
- Succession planning and training arrangements; and
- Adequacy of funding arrangements and efficacy of cost recovery.

The Capability Assessment included a comprehensive literature review and analysis, considered international practice and involved consultation with over 90 stakeholders from Government and industry.

OUTCOMES OF THE REVIEW:

The Review concluded that the National Plan and NMERA had proven to be effective response arrangements for Australia over the previous ten years. Nevertheless the Review made forty seven recommendations for improvement. The key areas of change include:

- Establishing a single response arrangement to manage maritime casualty and marine pollution incidents.
- Improving the strategic management and governance of the response arrangements.
- Integrating maritime casualty and marine pollution response arrangements within the Australian Emergency Management Arrangements.
- Addressing capability gaps, including aligning resource allocation based on the change risk environment.

These issues are discussed in detail below.

Strategic Management

As discussed above maritime casualty and marine pollution incidents were managed under different response arrangements. This was inefficient given the close links between the two types of incident and the stakeholders involved in preparing and managing these incidents. As a result the National Plan and NMERA have been incorporated into a single response arrangement, referred to as the National Plan for Maritime Environmental Emergencies. The intent is for the 'new' National Plan to operate under a single governance arrangement and response management structure.

The Review clearly identified that the governance of the National Plan and NMERA were no longer effective and that change was required to provide clear strategic direction to ensure an effective response system into the future. In combination with the wider range of stakeholders engaged with the new National Plan following the integration of maritime casualty and marine pollution, the governance and strategic management of the National Plan was substantially overhauled.

The objective of the National Plan governance is to provide a coordinated, integrated and accountable system is in place to manage maritime environmental emergencies. This is achieved through:

- Reporting to Australian Governments through the Council of Australian Governments arrangements.
- The establishment of a Strategic Coordination Committee comprising Australian Commonwealth and State and Northern Territory Governments to set policy direction and oversee the implementation of the National Plan.
- Stakeholder engagement, through the formation of a Strategic Industry Advisory Forum, with membership involving the shipping, petroleum, port and chemical industries.
- Establishment of technical committees to provide advice to the support decision making.

The new governance structure was established in December 2012.

Integration into the Australian Emergency Management Arrangements

In the ten years since the 2000 Review of the National Plan, an increasing number of Australian jurisdictions were implementing an 'all agencies, all hazards' approach to emergency management. Marine pollution response arrangements were progressively forming part of these broader arrangements.

The Review recognised that it was no longer viable to retain the National Plan as a stand-alone response system, but that the national marine pollution capability should support the broader emergency management. Such an approach is more efficient in that the resources of a number of agencies can be brought together in a structured way and experience can be transferred between the different services. This is particularly valuable in the Australian context where State based emergency services have substantial experience in the management of national scale incidents from bushfire and flood events.

Changes to the National Plan arrangements to enable this alignment included:

- Formal recognition of the Australian Emergency Response Arrangements within the National Plan, including acknowledgement of its supporting status to these broader arrangements.
- Adoption of a common incident management system, based on the Australian Inter-Service Incident Management System (AIIMS). AIIMS is an ICS based system similar to the National Incident Management System used in the United State. This means that the terminology and systems employed by the National Plan are consistent with other emergency services who will also be involved in marine pollution incidents. AIIMS is also underpinned by nationally recognised training.
- Recognition that effective marine pollution response requires a focus on the community and its expectations.
- Recognition that a comprehensive approach, encompassing the phased of prevention, preparedness, response and recovery, is required to effectively to mitigate the effects of a marine pollution incident.

Response Capability

The Review identified a number of capability gaps which if left unaddressed could reduce the effectiveness of response operations. Of particular importance were the recommended upgrades to the national equipment stockpiles, expansion of the emergency towage capability, improving preparedness for hazardous and noxious substance response and implementing effective succession planning for the National Response Team.

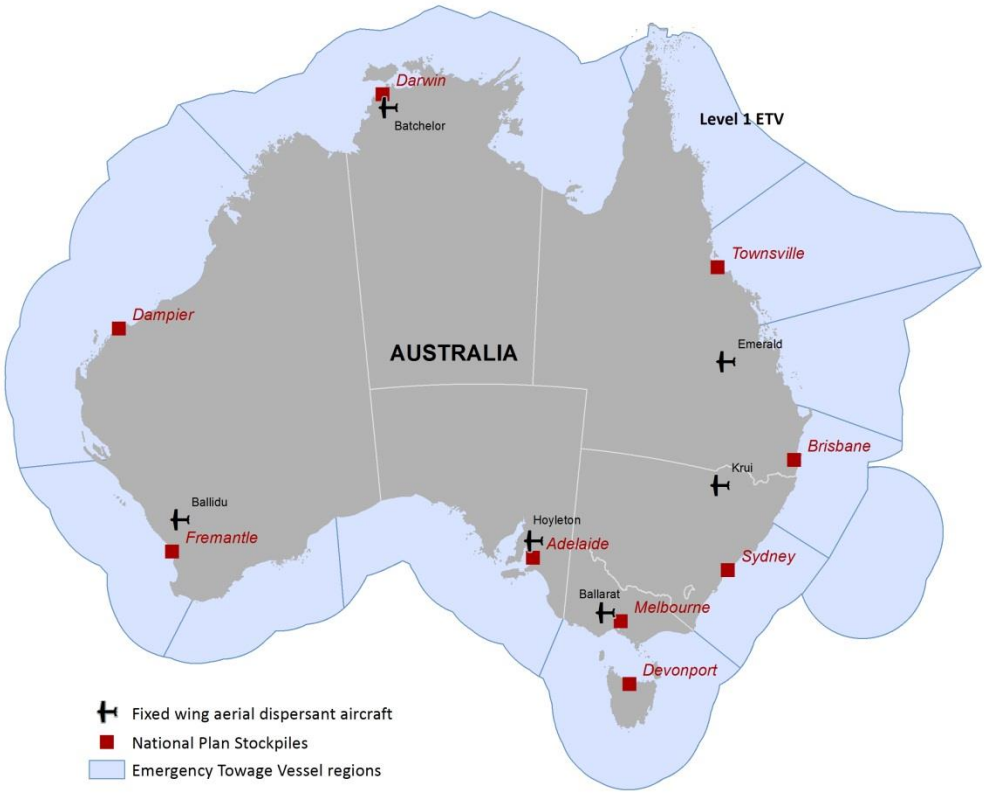
National Equipment Stockpiles

Australia maintains nine Tier 3 equipment stockpiles, in addition to the major holdings of the Australian Marine Oil Spill Centre, around the Australian coastline (Figure 3). The Review did not recommend changes to the location of the stockpiles, finding that they generally met the risk profile. The Review did however find that the mixed composition of the stockpiles and the age of the equipment could impact upon logistics and operational effectiveness respectively.

Since the Review, AMSA has implemented an equipment replacement program based on the following principles:

- The purpose of the national stockpiles is to supplement the Tier 1 and 2 resources of the state governments and industry.
- The location of the stockpiles will be determined by an evaluation of the national risk profile and the ease of logistics.
- All areas identified as high or very high risk within the National Risk Assessment will be able to be supplied from a national stockpile within 24 hours.
- Each stockpile will be able to be supplemented by road transport from a minimum of one other national stockpile within a maximum of 48 hours.

Figure 3 – National Plan Equipment, Aviation and Emergency Towage Assets



Emergency Towage Capability

Under the NMERA, the Australian coastline was divided into nine regions. Within each region AMSA contracted a minimum level of emergency towage capability (ETC). The Review recommend that the ETC be reassessed based on the current risk profile. Based on this assessment and consultation with relevant stakeholders, a further two ETC regions were created (Figure 3). The additional capability was established on 1 August 2013.

Hazardous and Noxious Substances

The National Plan arrangements for responding to chemical incidents, particularly offshore, were found to be a significant capability gap. While low frequency events, the Review did identify that such events can have serious consequences for the environment and the community. A three staged approach to the management of marine chemical spill incidents was recommended by the Review and is currently being implemented. This includes:

- Establishment of a marine chemical spill advisory service with an established hazardous material (HAZMAT) response agency (Level 1). This has been implemented.
- Establishment of deployable teams of HAZMAT to assess and conduct 'first aid' management of shipboard chemical incidents, such as releases from containers (Level 2). This capability is currently under development.
- Establishment of a response system to manage the releases of chemicals into the marine environment (Level 3). This capability is programmed to commence development in 2015.

National Response Team

The National Response Team is a group of 64 response personnel drawn from state governments and the port industry that can be deployed in management or operational team leader roles in the event of an oil spill incident. The NRT is exercised on an annual basis. The Review concluded that the NRT remained an important capability within the National Plan arrangements. NRT personnel have continually demonstrated their value as 'surge' support for Australian incidents since its inception in the 1990's. The Review did however find that great focus on maintaining effective succession arrangements for the NRT was necessary to ensure that the capability was maintained in the long term.

As a result AMSA is implementing a targeted training program to develop and maintain a pool of response personnel to a level where they can fulfil NRT roles as vacancies occur. Additionally this will provide a greater number of personnel that can be deployed to an incident, increasing the national capability.

Environment, Science and Technical Services

The protection of the marine and coastal environment is a central objective of the National Plan. The Review identified a number of capability gaps in relation to the delivery of services to improve the environmental performance of response operations.

As a result there has been a focus on improving the National Plan arrangements in the following areas:

- Implementing a function approach to the delivery of environmental and scientific services within the incident response structure to allow the targeted provision of advice and operations. These response functions include a principal environmental adviser supporting the Incident Controller, environmental and scientific information management within the planning section and environmental supervisors to form part of operational teams where necessary. The National Plan also delineates agency representation from staff, to enable regulatory functions to be delivered outside of the incident management structure.

- Formalisation of arrangements with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to act as an expert scientific advisory body during response operations. This arrangement enables broader access to the Australian and international scientific community to support response decision making. Additionally CSIRO will provide the National Plan with dispersant monitoring and environmental performance services.
- Oiled wildlife response is recognised as a formal part of the National Plan incident management structure, rather than operating as a separate entity. The outcome from such an approach is two-fold; such an approach will enable resource conflicts to be better managed, noting that wildlife and other response operations can often compete for the same maritime and aviation resources, and contingency planning will need to take greater account of the requirements for wildlife operations. In support of this, AMSA is also upgrading the oiled wildlife response resources within the National Plan equipment stockpiles.
- Revising cost recovery arrangements for post spill impact assessment to align more clearly with international best practice, in particular the arrangements within the International Oil Pollution Compensation Funds Claims Manual. This is to provide greater certainty to agencies in the management and delivery of these monitoring programs.

CONCLUSIONS:

The Review of the National Plan and NMERA has led to a number of fundamental shifts in the delivery of maritime casualty and marine pollution response services in Australia, not the least of which is the formal integration of maritime salvage and marine pollution arrangements into a single response system. The new arrangements, and the substantial stakeholder support underpinning their implementation, will ensure the continued success of the National Plan in protecting Australia's community and marine environment from marine pollution.

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