THE MONTARA OIL SPILL AND THE NATIONAL MARINE OIL SPILL CONTINGENCY PLAN: DISASTER RESPONSE OR JUST A DISASTER?

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This study analyses the adequacy of the Australian Offshore Marine Oil Spill Contingency Plan in responding to petroleum platform-sourced oil spills, in light of the Montara Oil Spill in the Timor Sea in August 2009. After a consideration of the causes of the Montara Oil Spill, this study outlines the regulatory and response framework for marine oil spills in Australia, outlining the three pillars of oil spill planning, namely preparedness, training and response. The study then analyses the adequacy of the NatPlan and the National Marine Oil Spill Contingency Plan to address petroleum platform-sourced oil spills. This analysis highlights the weaknesses in oil spill preparedness, training and response to oil spills from oil installation-sourced oil pollution. In addition, it highlights the discord between the aim of the oil company to cap the leak, and the National Offshore Petroleum Safety Authority to preserve life through the implementation of a 'no go' zone around the Montara platform. In responding to the weaknesses identified in this critical analysis, this study also offers possible changes to Australia's oil spill response strategy to ensure that the response to future petroleum platform-sourced oil spills are best practice.

1. Introduction

The Montara oil spill in August 2009 was the first major marine oil spill from an offshore petroleum platform, with all other major oil spills in Australia the result of ship-sourced pollution.[1] Soon after the uncontrolled release of hydrocarbons (the oil spill) from the Montara Well Head Platform, PTTEP as the responsible Combat Agency, handed over control of the spill to the Australian Maritime Safety Authority (AMSA), in accordance with *Australia's National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances* (NatPlan), and the associated *National Marine Oil Spill Contingency Plan* (NMOSCP). The spill constituted a major disaster in terms of oil spills in Australia, triggering a Tier Three response to the spill under the NatPlan.

Since the oil spill, there has been a government inquiry into the causes of the spill. Whilst this study necessarily considers the causes of the Montara oil spill for the purposes of completeness, it does not does not seek to analyse these causes and the legal issues arising out of the incident. Furthermore, this study does not seek to provide a detailed analysis of the adequacy of the AMSA response, as delegated Combat Agency, to the oil spill.[2] Rather, this study examines the adequacy of the NatPlan in responding to Australia's first major platform-sourced marine oil spill. In doing so, it will firstly outline the cause of the Montara oil spill. It then outlines the regulatory framework of the NatPlan and NMOSCP in relation to marine oil spills. In doing so, it considers the three pillars of oil spill planning in Australian waters, namely preparedness, training and response. Finally, it analyses the response to the Montara oil spill under the NMOSCP, and the adequacy of the NMOSCP to respond to a major oil spill from a remote oil platform. It critically examines whether the preparedness and response by the platform operator PTTEP (as initial Combat Agency), as outlined in the NatPlan, was adequate to manage the severity of the spill, and whether the NatPlan and NMOSCP were an adequate regulatory tool for a petroleum platform-sourced oil spill. This analysis necessarily encompasses an assessment of actions of the National Offshore Petroleum Safety Authority (NOPSA) in the management of the oil spill. Where limitations in the adequacy of the NMOSCP to oil platform spills have been identified, this study provides a discussion on possible solutions to these limitations.

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[1] For details of all major oil spills in Australia's waters in the last thirty years, refer to Australian Maritime Safety Authority, *Major Oil Spills in Australia* (2009) <http://www.amsa.gov.au/Marine_Environment_Protection/Major_Oil_Spills_in_Australia/> at 21 April 2010.

[2] An analysis of the role of AMSA has been undertaken by AMSA in its report Australian Maritime Safety Authority, *Response to the Montara Wellhead Platform Incident: Report of the Incident Analysis Team March 2010* (2010).

2. The Montara Spill – cause and effects

The Montara oil spill took place in the Timor Sea on 21 August 2009. It occurred in a remote area northwest of the Western Australian coast, approximately 690 kilometres from Darwin, 260 kilometres north-west of Truscott Air Base in Western Australia, 160 kilometres from Ashmore Reef, and 250 kilometres from Indonesia. The spill continued until 3 November 2009, when the well was capped by a relief well.[3] In total, approximately 64 000 litres of oil per day leaked from the well from 21 August 2009 until 3 November 2009, a total of 106 days.[4] In total, approximately 6.7 million litres of oil leaked from the well.

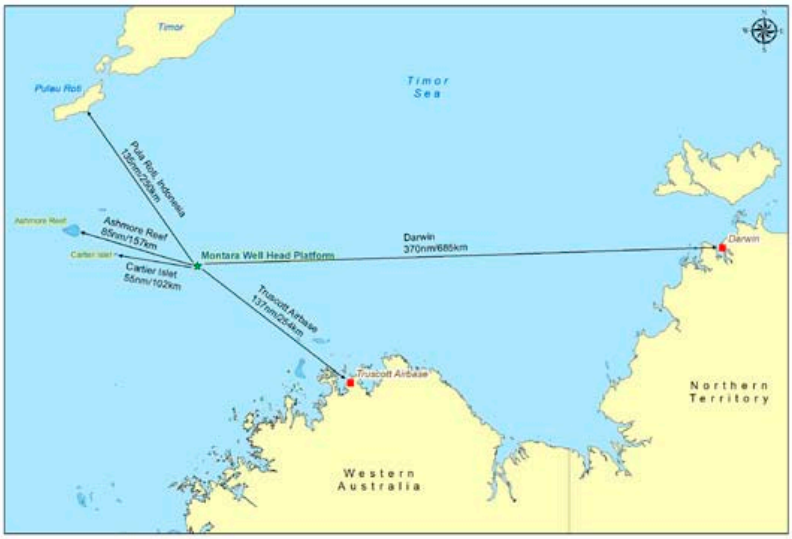

Figure 1: Location of the Montara Well Head Platform. Note the distance from the Statutory Agency, the Northern Territory Government and the remote location. Note also the proximity of the Platform to West Timor. Source: Australian Maritime Safety Authority, *Major Oil Spill: Montara Well Head Platform* *http://www.amsa.gov.au/Marine_Environment_Protection/Major_Oil_Spills_in_Australia/Montara_Wellhead/index.asp*

The probable cause of the Montara oil spill was outlined by the operator of the Montara Platform, PTTEP, in its submission to the Montara Commission of Inquiry (MCI). According to the submission by PTTEP to the MCI, an initial uncontrolled hydrocarbon release (UHR)[5] (containing approximately 40–60 bbl) occurred on the Montara Well Head Platform on the H1 Well at 05:30 on 21 August 2009.[6] This release subsided, although bubbles were seen and heard from the top of the conductor on the well.[7] This was followed by another UHR at 07:23, of higher pressure and volume than the initial UHR, containing a mix of unignited oil and gas.[8] Soon after, the rig was abandoned by all personnel, since safety was compromised due to the presence of unignited hydrocarbons.[9] Soon after the second UHR at 07:23, PTTEP reported the UHR to AMSA, and control over the UHR was transferred to AMSA,[10] in accordance with the provisions of NatPlan[11] and NMOSCP.[12] Prior to transfer of responsibility to

[3] Australian Maritime Safety Authority, *Major Oil Spill: Montara Well Head Platform* (2009) <http://www.amsa.gov.au/Marine_Environment_Protection/Major_Oil_Spills_in_Australia/Montara_Wellhead/index.asp> at 14 July 2010.
[4] Above n 1.
[5] The initial leak was called an Uncontrolled Hydrocarbon Release, since it contained both oil and gas. In this study, UHR and oil spill have the same meaning.
[6] PTTEPAA, Submission No SUBM.1000.0001 to the Montara Commission of Inquiry, *Inquiry into Montara Well Head Platform Uncontrolled Hydrocarbon Release*, 2010, [81].
[7] Ibid.
[8] Ibid [84].
[9] Ibid.
[10] Ibid [1].

AMSA, PTTEP, as the relevant oil company, was the designated Combat Agency responsible for oil spills at its oil exploration rig.[13]

The submission provided by PTTEP to the MCI identified the cause of the UHR as a failure to install a 320mm Pressure Containment Cap (PCC) on the H1 Well and the failure of the float of the casing shoe.[14] A 244mm PCC had been installed on the H1 Well, however a change order had requested a 320mm PCC to be installed on the H1 Well.[15] The absence of the 320mm PCC was discovered by PTTEP when work on the well commenced in August 2009.[16] PTTEP was advised in March 2009 by the drilling supervisor on the *West Atlas* drill rig that the PCC had been installed; however this was discovered by PTTEP to not be the case when work on the well recommenced in August 2009.[17] Affidavits and transcripts from the MCI identify the failure of the float of the casing shoe, causing the incorrect cementing of the well.[18] Together these omissions and mistakes contributed to the failure of the well.[19] The completed well was not inspected by NOPSA, with NOPSA noting that the Designated Authority (DA) has responsibility for well operations under the *Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004* (Cth).[20] Furthermore, NOPSA noted that it does not undertake any on-site activities other than inspection and investigatory actions under powers afforded to it by the Occupations Health and Safety laws of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) (OPAGGSA).[21]

3. NatPlan and the National Marine Oil Spill Contingency Plan

3.1 Current regulatory arrangements pertaining to oil spills in Australia

The NatPlan provides a national framework for responding promptly and efficiently to marine pollution incidents by designating competent national and local authorities to respond to spills. The current regulatory structure for offshore oil spills is outlined in the NatPlan. It comprises the Commonwealth, States and the Northern Territory, who have clearly delineated responsibilities under the NatPlan Intergovernmental Agreement (NIGA).[22] Australia has adopted a number of international protocols relating to marine oil spills, including the *International Convention on Oil Pollution, Preparedness, Response and Cooperation 1990* (OPRC Convention),[23] and the *Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances 2000.*[24] In addition, Australia plays a key role in the *Pacific Regional Marine Spill Response Plan* which was developed as part of the South Pacific Regional Environment Programme (SPREP). The NatPlan implements Australia's obligation under these international instruments.[25] The legislative framework that established the NatPlan is outlined in Figure 2 below.

[11] Australian Maritime Safety Authority, *National Plan: Australia's National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (NatPlan)* (2007) 5.
[12] Australian Maritime Safety Authority, *National Marine Oil Spill Contingency Plan* (2005) 2.4.
[13] This is in accordance with both NatPlan and NMOSCP.
[14] PTTEPAA, above n 6, [92]. This is corroborated by Atlas Drilling Pty Ltd, Submission No SUBM.1501.0001 to the Montara Commission of Inquiry, *Inquiry into Montara Well Head Platform Uncontrolled Hydrocarbon Release*, 2010, [13].
[15] Above n 6, [98]. This is corroborated by Atlas Drilling Pty Ltd, above n 14, [11].
[16] Above n 6, [92].
[17] Ibid [100].
[18] Evidence of this failure is corroborated between the Affidavit of Day Drill Supervisor, Montara Platform, Mr Noel Edward Treasure [28]–[37], and Montara Commission of Inquiry Evidence No NOP.9002.001.0024; Statutory Declaration of Cementer, Halliburton, David Arthur Doeg [51]–[70], Montara Commission of Inquiry Evidence No WIT.1804.0003.0001, and transcripts of day 4 (18 March 2010), and day 5 (19 March 2010) of the Inquiry Hearings. See <http://www.montarainquiry.gov.au/hearings.html>. Note also the discussion of the failure of the 244mm casing float collar during the cementing process in the PTTEP submission to the MCI: PTTEPAA, above n 6, [93]–[97], [107]–[112].
[19] As outlined by PTTEP in its submission to the MCI, above n 6, [86]–[112].
[20] As noted in NOPSA, Submission No SUBM.3003.0001 to the Montara Commission of Inquiry, *Inquiry into Montara Well Head Platform Uncontrolled Hydrocarbon Release*, 2010, 8.
[21] Ibid 12.
[22] Australian Maritime Safety Authority, above n 11, 4.
[23] *International Convention on Oil Pollution, Preparedness, Response and Cooperation*, opened for signature 30 November 1990, 1891 UNTS 51 (entered into force 13 May 1995).
[24] *Protocol on Preparedness, Response and cooperation to Pollution Incidents by Hazardous and Noxious Substances*, opened for signature 14 March 2000, [2003] ATNIF 9 (entered into force 14 January 2007).
[25] Above n 11, 25.

Act	Objectives	Complementary State/NT legislation
Protection of the Sea (Civil Liability) Act 1981	Implements International Convention on Civil Liability for Oil Pollution Damage 1992, requiring the owners of oil tankers to have insurance for pollution damage Cost recovery for AMSA National Plan activities	No Yes
Protection of the Sea (Civil Liability for Bunker Oil Pollution Damage) Act 2008	Implements International Convention on Civil Liability for Bunker Oil Pollution Damage 2000	No
Protection of the Sea (Harmful Anti-fouling Systems) Act 2006	Implements International Convention on the Control of Harmful Anti-fouling Systems on Ships 2001	No
Protection of the Sea (Powers of Intervention) Act 1981	Implements International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties and the 1973 Protocol to that Convention. Sets out intervention powers for territorial waters	Yes Yes
Protection of the Sea (Prevention of Pollution from Ships) Act 1983	Implements International Convention for the Prevention of Pollution from Ships (MARPOL) setting operational and construction standards for ships to prevent pollution.	Yes
Protection of the Sea (Shipping Levy) Act 1981 and Protection of the Sea (Shipping levy Collection) Act 1981	Imposes levy on shipping to fund Australia's National Plan and sets out how the levy is collected.	No
Protection of the Sea (Oil Pollution Compensation Fund) Act 1993, *Protection of the Sea (Oil Pollution Compensation Fund - Customs) Act 1993,* *Protection of the Sea (Oil Pollution Compensation Fund - Excise) Act 1993,* *Protection of the Sea (Oil Pollution Compensation Fund - General) Act 1993*	Implements International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992 providing compensation for oil spill damage above the limits available under the Civil Liability Convention, funded by levies on oil companies.	No
Australian Maritime Safety Authority Act 1990	Sets out functions of the Australian Maritime Safety Authority, including "the combating of pollution in the marine environment"	No

Figure 2: Commonwealth Legislation related to the NatPlan and the National Marine Oil Spill Contingency Plan (Source: Australian Maritime Safety Authority, *National Marine Oil Spill Contingency Plan: January 2010*, 8).

3.2 Oil Spill Response under NatPlan and NMOSCP

Australia's oil response under the NatPlan and NMOSCP is based on three primary aims: to protect human health and safety, to minimise environmental impacts, and restore the environment, as near as practicable, to pre-spill condition.[26] Therefore, oil spills and the response to those spills are categorised under three tiers. Tier One spills are small spills (less than 10 tonnes), requiring local response, Tier Two spills are medium spills (10-1000 tonnes), requiring regional/national assistance, and Tier Three spills are large spills (more than 1000 tonnes), requiring national assistance.[27] The role of the Commonwealth, through AMSA, is primarily one of coordination, training, technical and logistical support, equipment and materials, and finance.[28] Under NatPlan, the Statutory Agency has statutory authority for marine pollution in their jurisdiction, which is defined by the Offshore Constitutional

[26] Ibid 15.
[27] Ibid 15.
[28] Ibid 4.

Settlement (OCS),[29] with the States/NT having jurisdiction from the baseline seaward to three nautical miles, and the Commonwealth has jurisdiction in Commonwealth waters seaward of three nautical miles.[30] The Combat Agency is the agency with operational responsibility in accordance with the relevant contingency plan under NatPlan. The contingency plans are as follows:

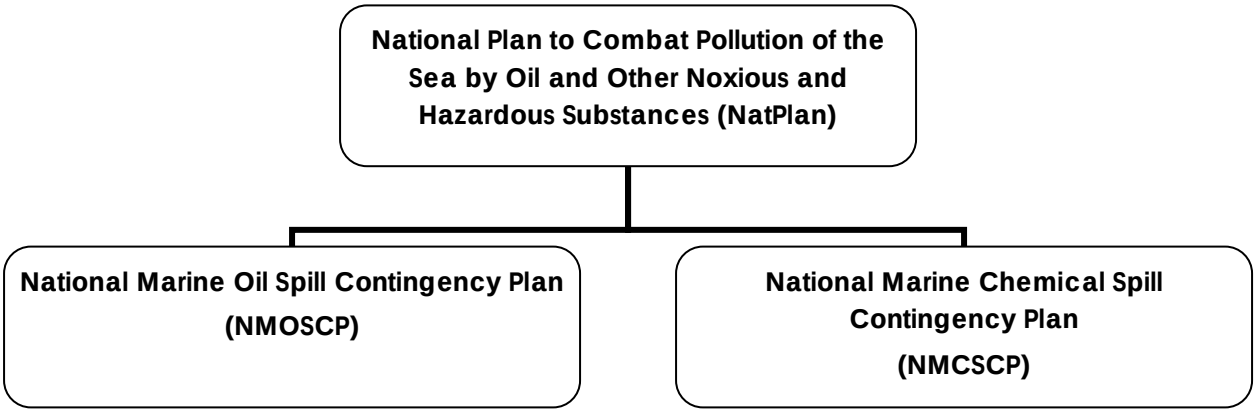

Figure 3: Marine Spill Contingency Plans under NatPlan

The relevant contingency plan for marine oil spills is the NMOSCP, which prescribes the procedures for and information required to implement the NatPlan.[31]

The Combat Agency responsible for marine spills varies, depending on the location of the spill. It includes:

- At oil rigs, platforms and pipelines – the relevant company, with assistance, as required, from the National Plan State committee or AMSA, depending on the jurisdiction;

- At oil terminals – the relevant company, including industry mutual aid arrangements as required, unless the response is beyond its capability. In that instance, responsibility is transferred to the State/NT through the National Plan State Committee, with assistance from AMSA where required;

- At chemical terminals – the relevant company or terminal operator under *The Plastics and Chemical Industries Association* Chemsafe Emergency Management Program arrangements, unless the response is beyond its capability. In that instance, responsibility is transferred to the State/NT through the National Plan State Committee, with assistance from AMSA where required;

- In ports and up to three nautical miles coastal waters limit – the responsible State/NT Authority through the National Plan State Committee, with assistance from AMSA as required:

- Beyond the three nautical mile coastal waters limit – The Commonwealth through AMSA, except in incidents when oil is likely to come ashore. The State/NT is the combat agency charged with protecting the shoreline, while AMSA assumes responsibility for ship operational matters such as salvage; and

- In the REEF PLAN area of the Great Barrier Reef – the Queensland Government through the National Plan State Committee, with assistance from AMSA as required.[32]

[29] Pat Brazil, *Offshore Constitutional Settlement 1980: A Case Study in Federalism* (Centre for International and Public Law, Faculty of Law, Australian National University, 2001) 2.
[30] Australian Maritime Safety Authority, above n 11, 5.
[31] Australian Maritime Safety Authority, above n 12, 1-2.
[32] Australian Maritime Safety Authority, above n 11, 5-6.

3.3 Preparedness to respond to an oil spill under NatPlan and NMOSCP

A new version of Australia's NMOSCP was released in January 2010, presumably in response to the Montara oil spill. The previous NMOSCP was released in January 2005, and was in operation at the time of the spill. The major difference in the two versions of the NMOSCP is that the 2010 version provides the operational protocol for the transfer of Combat Agency.[33]

3.3.1 Stockpiles

Preparedness to respond to a marine oil spill is contingent upon having the necessary equipment and personnel to respond to an oil spill incident. As such the NatPlan is underpinned by the training of personnel (which is considered below), and the stockpiling of equipment required to respond to oil spills.[34] This equipment is owned by a number of agencies, including AMSA, port authorities, and the Australian Marine Oil Spill Centre (AMOSC).[35] The logistical management of the equipment is controlled through the *Marine Oil Spill Equipment System* (MOSES). Equipment for large spills (Tier Two and Three) is generally provided by AMSA.[36] The equipment that is stockpiled includes booms, self-propelled oil recovery vehicles, static oil recovery devices and sorbents, and storage bags and bladders.[37]

The equipment stockpiles are located at various coastal ports around Australia, including Sydney, Melbourne, Adelaide, Townsville, Darwin, Launceston, Dampier, Brisbane and Fremantle.[38] In addition, the industry run AMOSC in Geelong has stockpiles of equipment to respond to a Tier Three oil spill. The AMOSC was located at Geelong since when the centre was established almost 20 years ago, the majority of offshore petroleum production came from the Otway and Gippsland Basins located in Bass Strait.[39] This is no longer the case, with Australian offshore petroleum production primarily coming from Western Australia.[40] The locations of these equipment stockpiles create a concentration of equipment on the east coast of Australia, from Townsville to Adelaide, in response to the major port and shipping activities in Australia. Meanwhile, the petroleum producing areas of the vast Western Australian coast (which has a length of almost 13 000 kilometres)[41] is only protected by Fremantle, Dampier and Darwin stockpiles. This means that the area of greatest petroleum production in Australia has oil spill response stockpiles located thousands of kilometres from each other, and over 4 000 kilometres from the AMOSC stockpiles in Geelong.

3.3.2 Training

Training comprises regular exercises for personnel likely to be involved in responding to marine oil spills. The training involves federal and state bodies and industry, and includes both individual training for each of the agencies, and this training is integrated into a NatPlan training exercise held biennially. There are multiple levels of training for various personnel, including state marine pollution controllers, middle management and supervisors.[42]

[33] See Appendix 4, Australian Maritime Safety Authority, above n 12, 58-61.
[34] Australian Maritime Safety Authority, above n 11, 12, 23.
[35] The Australian Marine Oil Spill Centre ('AMOSC') is the oil industry's major oil spill response facility. It is located in Geelong, near Melbourne, and contains a stockpile of equipment including dispersant, containment, recovery, communications, cleaning and absorbent materials necessary for the efficient and effective response to marine oil spills in Australia. Companies pay a fixed annual subscription to AMOSC to contribute to the cost of equipment stockpiles. See AMOSC, *Australian Industry Cooperative Oil Spill Response Arrangements* (2008), 4.
[36] Australian Maritime Safety Authority, above n 11, 23.
[37] Ibid.
[38] Australian Maritime Safety Authority, above n 12, 24.
[39] At its peak, Bass Strait contained over 350 wells and 21 platforms, producing around 106 million barrels of oil annually. Today these fields produce negligible amounts of petered, with the majority of production coming from the Carnarvon Basin. See Australian Petroleum Production & Exploration Association, *Statistics* (2010) <http://www.appea.com.au/index.php?option=com_content&view=section&layout=blog&id=53&Itemid=600003> at 12 August 2010.
[40] Ibid.
[41] Geoscience Australia, *Coastline Lengths* (2009) <http://www.ga.gov.au/education/geoscience-basics/dimensions/coastline-lengths.jsp> at 12 August 2010.
[42] Australian Maritime Safety Authority, above n 11, 13.

Major spill response training is conducted by AMSA in its biennial training exercise. The exercises are designed to test the administrative and operational arrangements for responding effectively to a major oil spill, and to test the efficiency and effectiveness of the Oil Spill Response Incident Control System (OSRICS) that was implemented in the late 1990s.[43]

Four training exercises have been conducted biennially since 2000, under OSRICS. The scenario for the 2000 training exercise involved a collision between a tanker and a cargo ship in the Western Australian port of Dampier.[44] The aim of the exercise was to test operational plans and procedures, and the coordination between agencies in the event of ship-sourced oil pollution in a major port.[45] Whilst the exercise was successful, it highlighted the value of checklists, early surveillance of the scope of the problem, and the value of early requests for assistance.[46]

The NatPlan training exercise held in the Torres Strait in 2002 again tested the capacity of the relevant Combat Agency (the Queensland Government) to respond to a ship-sourced oil spill, this time in the Torres Strait. The scenario involved the collision between a bulk carrier and an oil tanker in the Great North East Channel of the Torres Strait, a marine area of significant environmental and cultural value.[47] This training exercise sought to not only test OSRICS and the operational and administrative arrangements associated with a ship-sourced oil spill, but to also raise awareness of the cultural, environmental and jurisdictional issues associated with responding to a major oil spill in Torres Strait, since the Torres Strait community use the waterways on a daily basis.[48]

Ship-sourced pollution was again the focus of the 2004 NatPlan training exercise, which was held at the port of Botany Bay. The training exercise was based on an accident involving a tanker approaching the Caltex oil refinery at Kurnell, resulting in an oil spill of 2000–3000 tonnes of oil in the Botany Bay area, including adjacent foreshores.[49] Again the goal of the training exercise was to test administrative and operational arrangements for responding to a major oil spill.[50] In particular, the exercise focused on the deployment of personnel and equipment to cope with a Tier Three spill event.[51] The training event was assessed as an overall success, with all objectives met and tested.[52] However, the exercise identified a need for improved communications, command and control, document administration and reporting.[53]

The training exercise conducted by AMSA in 2006 under NatPlan focused on an oil spill from a piloted petroleum tanker in the Mersey River in Tasmania.[54] The objective of the exercise was to not only test the effectiveness of NatPlan, but also the effectiveness of the Tasmanian Marine Oil Spill Contingency Plan.[55] The exercise was assessed as successful, although a number of opportunities for improvement were identified, especially with regard to the management and execution of relevant plans in Tasmania.[56]

Each of these training exercises conducted were modelled around ship-sourced pollution. None of the NatPlan training exercises to date have involved oil platform sourced pollution. A national biennial training exercise was scheduled to be held in Victoria in 2009, however the exercise was postponed due to the oil spill from the *Pacific Adventurer.* The training exercise was rescheduled for May 2010.[57]

[43] K Dwyer and Associates Pty Ltd, *National Plan Oil Spill Response Training Exercise 2000: Pilbara Region 4th and 5th September 2000* (2000), 3.
[44] Ibid 14.
[45] Ibid 5.
[46] Ibid 5.
[47] Maritime Safety Queensland, *National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substance: Exercise 2002 – Torres Strait, Queensland 31 October 2002* (2002) 3.
[48] Ibid 6.
[49] Australian Maritime Safety Authority, *National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substance: Exercise 2004 Exercise 'James Cook' – Botany Bay Wednesday 15 September 2004* (2004) 9.
[50] Ibid.
[51] Ibid 8. Note that a Tier Three spill is classified as a large spill, greater than 1000 tonnes. It covers major incidents, normally involving oil tankers or other vessels having large amounts of bunker oil. See Australian Maritime Safety Authority, above n 11, 15.
[52] Australian Maritime Safety Authority, above n 49, 4.
[53] Ibid.
[54] Ibid 7.
[55] Ibid 5.
[56] Ibid 2.
[57] Australian Maritime Safety Authority, *Annual Report 2008-2009* (2009) 37.

4. Response to the Montara Oil Spill under the National Marine Oil Spill Contingency Plan

The Montara oil spill was not an unusual occurrence. Human error has caused numerous blowouts and UHRs in the offshore environment. What was unusual about this oil spill was that it took 106 days for the source of the oil spill, the Montara H1 Well, to be capped, and the source of the pollution to be stopped. For any country, but particularly a first world nation, this raises the question whether the current regulatory arrangements for oil spills in Australian waters arising from platform-sourced oil pollution (the NatPlan and NMOSCP) are sufficiently capable of responding efficiently and effectively to the Tier Three oil spill.

4.1 Preparedness to respond to an oil spill under NatPlan and NMOSCP

4.1.1 Reporting of the Spill

Under the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth), and the NMOSCP, oil companies have a requirement to report oil spill incidents to the relevant authority, to ensure the capacity for continual monitoring and environmental assessment. PTTEP delayed in reporting the initial UHR. The initial UHR that occurred at 05:30 was not reported to either AMSA or the NT Government as Designated Authority (NTDA). Furthermore, when the second UHR occurred, the spill was reported to AMSA (since PTTEP requested that AMSA take control over the spill),[58] however there is no indication in PTTEP's submission to the MCI that PTTEP reported it to the NTDA. The NTDA formally passed responsibility for the spill to AMSA at 19:00 on 21 August.[59]

This lack of communication by PTTEP to AMSA regarding the UHR may have slowed AMSA's response to the spill, preventing containment of the spill. There is a need for compulsory, immediate reporting of all hydrocarbon releases (gas and oil) by companies to the relevant Statutory Agency. Indeed, in previous training exercises where oils spills were located in ports, a lack of communication was identified in a number of the exercises. Therefore, the reporting requirements for offshore hydrocarbon releases under the NMOSCP and the NatPlan should be stringent.

4.1.2 NatPlan, NMOSCP and the Source of the Pollution

Both the NatPlan and the NMOSCP presume that the primary source of offshore oil pollution is likely to be ship-sourced pollution or arising from oil terminal/port facilities. This is evident by the Australian Transport Council being the Ministerial body responsible for NatPlan matters, and the focus of training operations in the last 10 years. This presumption is valid, given that all oil spills in Australia's maritime zone prior to Montara have been the result of ship-sourced oil pollution (either from oil tankers or cargo ships), or from oil refinery incidents (eg the Mobil refinery incident at Port Stanvac in 1999).[60] The Montara oil spill differs from these typical maritime spill events. This spill occurred in a remote area of Australia (the north-western coastline), far offshore (over 690 kilometres from Darwin), and was sourced from petroleum activities rather than shipping. This created many challenges for oil response agencies, particularly since such an incident had not been the subject of training for response agencies and had never before occurred in Australia's offshore environment.[61]

Another difficulty of the Montara spill was the ongoing nature of the spill. Generally, when the source of the oil pollution is either a ship-sourced leak or a grounded ship, there is the capacity to respond quickly to the source of the pollution, often by pumping the oil to another vessel, thereby stopping the source of pollution. This expectation of ship-sourced pollution is reflected in the location of the equipment stockpiles, and the type of equipment which is stockpiled by AMSA and AMOSC (including storage bladders and oil recovery devices). The location of the response equipment is designed to respond quickly to the source of pollution in a port or grounding area (usually

[58] According to the submission by PTTEP to the MCI: see PTTEPAA, above n 6.
[59] Australian Maritime Safety Authority, above n 2, 1.
[60] See above n 1.
[61] Major oil spill training is generally undertaken every two years in Australia. Previous training exercise have included oil spill in Botany Bay (training 2004), the collision of two ships in the Torres Strait (2004) and collision between a tanker and a general cargo ship at port of Dampier (2000).

relatively close to shore), and offload the oil from the source of the spill (eg a ship). Furthermore, there are salvage provisions in the NMOSCP to enable emergency ship towage,[62] and the provision of safe harbour to decrease the risk of oil spills. In the Montara spill, the well leaked oil for a protracted length of time, with the capping of the well taking over three months. This created many difficulties in spill response, since there is a continual source of fresh pollution. It is important to note that NatPlan and NMOSCP contained no provisions for the exercise of jurisdiction or authority over the source of the spill (the Montara Well Head Platform). As such, the platform was in the control of NOPSA, as the Authority charged with the safety of personnel. With the declaration of a 'no-go' zone of two nautical miles around the platform by NOPSA, this seriously hampered the ability of the PTTEP to cap the leaking well. The response of NOPSA and the impact of that response are addressed below.

4.1.3 Equipment depots and deployment of equipment

The submission by AMSA to the MCI noted that it commenced aerial spraying of dispersants as a method of response to the oil spill on 23 August 2009, a full two days after the UHR.[63] Until that time, there was little response to the spill other than oil trajectory mapping, and aerial flyover to gather intelligence for response planning,[64] whilst AMSA awaited dispersant deployed from Singapore and the AMOSC depot in Geelong.[65] Furthermore, AMSA notes that it spent the two days in the aftermath of the initial spill organising fixed wing aircraft from Australia and Singapore.[66] This delay in the deployment of dispersant due to its location in Geelong, and need to augment the dispersant with stores from Singapore, highlights the weaknesses of the current equipment stockpile system, and its emphasis on ship-sourced pollution[67]

The Montara spill also demonstrated that the in situ supply of dispersant in the Western Australian petroleum production areas was inadequate to respond to a relatively small spill. Should a major spill occur, response time would be similarly hampered by the location of equipment in southern port areas, and only modest supplies in northern and western depots that are more than 1 500 kilometres apart. Given that oil and gas activities in the north-western offshore region have increased substantially, it is timely that the location and composition of oil spill equipment depots are reviewed to ensure that these depots are placed in areas where UHR are likely to occur, and rapid response is needed. Under NatPlan, AMSA should consider creating additional spill stockpiles along the north-western Western Australia coastline to ensure timely and effective response to oil spills resulting from petroleum activities in this area. Furthermore, the location of AMOSC should be revised, given the level of petroleum activities in north-western Western Australia.

4.1.4 Oil spill response by PTTEP and the NTDA

The response to any oil spill should be two pronged: to contain and clean up the oil spill, and to stop the source of the leak.

4.1.5 Contain and clean the oil spill

Although the Montara oil spill occurred in Commonwealth waters, and therefore AMSA was the relevant Statutory Authority, the relevant Statutory Authority was delegated to the NTDA. It would appear that the Northern Territory did not respond to the UHR, since PTTEP handed over control of the spill to AMSA. However, it is important to address the capacity of the NTDA, as Commonwealth delegate, to respond to an oil spill from a petroleum platform. The Commonwealth had delegated to the NTDA responsibility for managing offshore oil spills. However, the question is whether the Commonwealth conducted an assessment of the capacity and preparedness of the NTDA to respond to an offshore oil spill from a petroleum platform. Certainly, there had been no major oil spill training

[62] Australian Maritime Safety Authority, above n 12, 38.
[63] Australian Maritime Safety Authority, Submission No SUBM.3001.0001 to the Montara Commission of Inquiry, *Inquiry into Montara Well Head Platform Uncontrolled Hydrocarbon Release*, 2010, 10.
[64] Ibid 9.
[65] Ibid.
[66] Ibid.
[67] Reflected in the location of equipment depots in Townsville, Brisbane, Sydney, Melbourne, Launceston, Adelaide, Fremantle, Dampier and Darwin: Australian Maritime Safety Authority, above n 11, [5.4]. Note that the 2005 NMOSCP is utilised in this section, since it was the NMSOCP that was in operation at the time of the Montara Well Head Platform UHR.

exercise undertaken by the NTDA as part of NatPlan training within the last 10 years. Therefore the Commonwealth, as Statutory Authority for Commonwealth waters around the Northern Territory should assess the capacity of the NTDA to implement appropriate oil spill control measures within its delegated jurisdiction.

According to the submission of PTTEP to the MCI, PTTEP did not deploy any response to either the first or second UHR. This means that no booms were deployed in an attempt to contain the UHR within the vicinity of the source of the pollution. As initial Combat Agency, PTTEP has the responsibility to undertake, as soon as possible, preventative and cleanup action for a UHR.[68] Even given the risk of the unignited hydrocarbons after the second UHR, there should have been some attempts by PTTEP to manage the spill. Such response could have included the placement of booms around the spill at a safe distance in order to contain the spill as close as possible to the source of the spill. Instead, PTTEP did not instigate any such measures. Furthermore, there is no mention by PTTEP in its submission, whether it had immediate access to spill control measures, particularly booms.

The indication from the lack of initial response by PTTEP is that there appeared to be no contingency plan for an oil spill from an oil platform. When the initial small UHR occurred, PTTEP did not attempt to in any manner contain or address the spill. Certainly PTTEP engaged in cleanup operations after the major UHR, including spraying dispersant alongside AMSA aircraft. However, what is of concern is the apparent lack of localised containment preparedness using booms to prevent the oil from moving from the source, and aid in the recovery of the oil.

When the second larger and sustained UHR occurred, PTTEP contacted and handed over operations to AMSA. This gives the indication that PTTEP, was not prepared for an oil spill, even though it is the Combat Agency for an oil spill from a petroleum installation. When the small spill occurred, there was no response by PTTEP, and once a larger spill occurred, AMSA was contacted, and control handed over to AMSA in accordance with NatPlan and NMOSCP. There is no doubt that PTTEP followed the provisions of NatPlan. What is a concern is that PTTEP appeared not to commence any spill containment measures, and did not appear to have the capacity to respond to the spill when it occurred, or 'as soon as possible', as required by the NMOSCP.[69]

This lack of response of PTTEP not only contravenes the requirement as the Combat Agency according to NatPlan,[70] it also is counterintuitive to the principles of oil spill response implemented in other offshore petroleum jurisdictions. In Norway, the response to an oil spill is premised on the idea that the one doing the activity is responsible for their actions.[71] When a UHR occurs on the Norwegian Continental Shelf, the operator is required to report the incident immediately to the Petroleum Safety Authority (PSA) and the Norwegian National Coastal Authority (Kystverket). Furthermore, all large operators must be able to handle an uncontrolled blowout of 60 000 bbl/day in three metre seas and a 1.5 knot current. The operating company is required to have immediate access to boom and skimmers with the capacity to contain and pick up 600 barrels/hour within two hours of an UHR, while other responding agencies are enroute with equipment from onshore.[72]

4.1.6 Contain the source of the oil: cap the leaking well

After reporting the oil spill to AMSA, PTTEP as operator of the Montara platform, contacted *ALERT Well Control Pty Ltd* (ALERT) in the aftermath of the UHR, seeking expert advice on options to control the UHR. Whilst the ALERT team rapidly responded (within 24 hours), it was to be another 105 days before the UHR was stopped, and the H1 Well was capped. PTTEP attempted to employ the use of deluge operations in preparation for capping the well (wetting down to reduce the risk of fire) and simultaneous well control activities (surface capping and relief well operations). The response of NOPSA to the leaking well was to place prohibition notice on the Montara Well Head Platform, as a part of the safety case regime, and prevent all stakeholders from entering the area within a radius of two nautical miles. This notice prohibited any work being done that required any personnel to be at any workplace at the Montara Well Had Platform facility, including support vessels offshore the Montara Well Head Platform within a two nautical mile radius.[73] The effect of the prohibition notice was that PTTEP was no longer able to continue deluge operations.

[68] Australian Maritime Safety Authority, above n 12, 2.5.
[69] Ibid.
[70] Ibid.
[71] Norwegian Petroleum Directorate, *Facts 2008* (2008) 19.
[72] Daniel J Lawn, *An Interim Review of Oil Spill Prevention and Cleanup Capabilities in Northern Europe Compared to Alaska* (1990), 6-7.
[73] PTTEPAA, above n 6, [5]

This conservative approach prevented PTTEP and ALERT from attempting well capping operations. PTTEP noted in its submission to the MCI that it had developed a number of possible responses to the leaking well, however it did not implement them since it was likely that NOPSA would reject them based on the *ALARP* Principle (*As Low as Reasonably Practicable)* and the prohibition notice that had been issued by NOPSA.[74] Furthermore, PTTEP concluded that NOPSA took the view that it placed safety of personnel above the environment and property damage considerations, and therefore it was unlikely that NOPSA would approve any operations that would require personnel to be near the Montara Well Head Platform or West Atlas drilling rig.[75] This perception by PTTEP affected their response to the spill and operations attempting to cap the leaking well. This failure to attempt well-capping operations based on interpretation of what NOPSA would say significantly delayed the capping of the leaking well, possibly contributing thousands of barrels of leaked hydrocarbons into the marine environment.

NOPSA, in its submission to the MCI, made it very clear that it is not an 'emergency response organisation, nor does it direct response or recovery operations, nor does it undertake any onsite activities other than inspection and investigatory activities, under applicable Occupational Health and Safety (OHS) laws'.[76] The sum result was that NOPSA placed a prohibition on anybody entering the area to cap the leaking well, then assumed its legal position as regulator of OHS only, refusing to respond to the challenges of capping the leaking well. Whilst NOPSA's course of action as regulator of offshore petroleum safety was legally correct, it is questionable whether NOPSA's actions were within the spirit of its mandate as offshore safety regulator, since NOPSA as a safety regulator failed to embrace its intent of ensuring the safety and integrity of the petroleum facilities.[77]

An important question is raised by NOPSA's response to the UHR. Was the prohibition notice that was issued and maintained by NOPSA, forcing the capping of the well to occur through a relief well drilled two nautical miles from the source of the leak, industry best practice response to such an event? Certainly NOPSA was correct in issuing an initial prohibition notice so that a proper safety assessment could be made, and lives were not placed at risk. However, when deciding to maintain the prohibition order, did NOPSA seek or have due regard to any advice provided to them from either internal or external stakeholders, including RET, the NTDA, the NOPSA Board, PTTEP, and/or other companies? Furthermore, did NOPSA consult with AMSA, responsible Ministers, national and international oil companies, international regulators, or well management experts when deciding that the prohibition notice should remain?

The history of petroleum activities, both on and offshore, is littered with examples of UHR, and the need for dangerous responses to those hydrocarbon incidents. A huge UHR occurred on the Ekofisk Bravo platform in the North Sea in 1977 when the production valve stack had been removed but the blowout preventer had not yet been installed.[78] The well then 'kicked' and an incorrectly installed down-hole safety valve failed. This resulted in the well blowing out with an uncontrolled release of oil and gas.[79] The personnel were evacuated without injury via lifeboats and were picked up by a supply vessel. The initial flow was estimated at 28 000 barrels per day (bpd) with a calculated total release of 202 380 barrels.[80] The well was capped after only seven days on 30 April 1977, with the Norwegian government grateful that there was no loss of life.[81] It is likely that it was not a technical difficulty that prevented the capping of the Montara Well, since it was possible 40 years ago to contain a high pressure UHR in the North Sea, facing similar concerns of unignited hydrocarbons. Rather, it would appear it was the limitations of the Australian offshore petroleum regulatory framework (in particular the authority of NOPSA) that hampered the timely capping of the leaking well. As such, the capping of the well should be the subject of intense scrutiny, particularly the role of NOPSA in limiting the options of PTTEP to control the course of the UHR. Furthermore, the scope of responsibilities of NOPSA in the event of an oil spill from an oil platform needs to be delineated under the NatPlan and NMOSCP.

[74] Ibid [20].
[75] Ibid [20].
[76] NOPSA, above n 20, 9.
[77] NOPSA, *Facility Integrity* (2009) <http://www.nopsa.gov.au/presentation/Presentation%20-%20Facility%20Integrity%20-%20Accidents%20and%20Dangerous%20Occurrences.pdf>.
[78] *Ekofisk Bravo Platform Blowout* (2009) <http://dtiinfo1.dti.gov.uk/energy/coal/cfft/co2capture/appendix2.pdf>.
[79] Ibid.
[80] Ibid.
[81] Ibid.

There are many similarities between the Montara oil spill and the *Exxon-Valdez* spill. Certainly on the surface there seem to be many differences: the *Exxon-Valdez* spill was a result of ship-sourced pollution, and it contained vast amounts of heavy crude that washed up onto thousands of kilometres of shoreline. However both the *Exxon-Valdez* and the Montara spills occurred in remote locations, far from equipment depots, and with little initial response from the responsible oil company. In each case, it appears that the oil company, as Combat Agency, was under prepared, with few resources to contain a spill. Certainly, the spill of the *Exxon-Valdez* was massive, and it is understandable that it was difficult to contain. However, one of the concerns with the Montara spill is that whilst AMSA implemented the NatPlan immediately,[82] and AMOSC was notified soon after, there was a significant delay in actual response to the spill. Firstly, AMSA immediately commenced surveillance flights of the area, gathering spill intelligence and assessing the spill volume.[83] However it was not until two days after the spill that a physical response occurred, when dispersants sourced from the Geelong stockpiles and Singapore were used on the spill.

The *US Environmental Protection Agency* (EPA), in its assessment of the *Exxon-Valdez* incident, noted that Exxon-Mobile was clearly not prepared for a spill of this magnitude.[84] Furthermore, the report noted that the planning for and response to the *Exxon Valdez* incident was unequal to the task.[85] It recommended that future contingency planning needs to incorporate realistic worst-case scenarios and to include adequate equipment and personnel to handle major spills. The EPA noted that critical to the success of contingency planning is adequate training in the techniques and limitations of oil spill removal. Furthermore, the EPA recommended that organisational responsibilities must be clear, and personnel must be knowledgeable about their roles.[86] Finally, it recommended that exercises that fully test the response system must be undertaken regularly.[87] In addition, it also recommended the faster deployment of oil spill response personnel and equipment at times of crisis.

Fortunately, the Montara oil spill was not a major spill like the *Exxon-Valdez.* However, the Montara spill similarly highlights a number of operational and training deficiencies within the NMOSCP and NatPlan related to oil spills from oil platforms, and operations in remote areas. The spill provides the opportunity to critically assess the current capacity of NatPlan and NMOSCP to prevent and respond to activities which cause oil spills, and to identify deficiencies in the regulation of, and response to, oil spill incidents from offshore petroleum activities. In light of the Montara oil spill, the NatPlan and NMOSCP should be revisited and reviewed, assessing the response to petroleum platform-sourced pollution. The Commonwealth should consider creating and implementing a *National Offshore Petroleum Activities Oil Spill Response Plan* that specifically regulates the response to oil spills resulting from offshore petroleum activities. This plan should encompass petroleum platforms, Floating, Production, Storage and Offloading units (FPSOs), drilling rigs and other such structures.

5. Conclusion - A disaster plan or just a disaster?

The Montara spill was not, thankfully, a human disaster. However, to have a petroleum well leaking 64 000 litres of oil a day for 106 days is an environmental disaster. Australia was lucky. No oil reached the Australian shoreline, and there were no visible affects of the spill to Australia's coastline. However, the response to the Montara spill was a regulatory disaster. Not because the responding authority AMSA did a poor job. The disaster was the fact that the NatPlan and NMOSCP made no provisions for petroleum platform-sourced pollution.

The greatest failure in the response to the Montara oil spill was the inability and/or unwillingness of any government, authority or agency to assist PTTEP in the capping of the leaking well as soon as possible. This delay in the capping of the well appeared to not be attributable to technical difficulty. Rather it was directly attributable to the actions of NOPSA. PTTEP made significant attempts to cap the Montara well from the outset, as demonstrated by mobilising ALERT, and preparing for capping through deluging and other preparatory activities. However, the prohibition notice issued by NOPSA effectively prevented such a response. Since NatPlan and NMOSCP make no provisions for regulatory authority and jurisdiction issues related to the capping of leaking oil wells, as it focuses on ship-sourced oil pollution, the only response available to AMSA was to contain the oil that spilled. The lack of

[82] As noted by AMSA, above n 2, 1.
[83] Australian Maritime Safety Authority, above n 2, 2.
[84] US Environmental Protection Agency, *The Exxon Valdez Oil Spill: A Report to the President (Executive Summary)* (1990) <http://www.epa.gov/history/topics/valdez/04.htm> at 16 March 2010.
[85] Ibid.
[86] Ibid.
[87] Ibid.

capacity of other government agencies (both state and federal), to assist in capping the well made for a disastrous regulatory response to the Montara oil spill.

The location of the AMSA and AMOSC equipment depots on the eastern and southern coasts meant that there were significant delays in mobilising necessary equipment to respond to the oil spill. Furthermore, the need to import dispersant from the outset from Singapore highlights how underprepared the Australian stockpiles are for dealing with a major oil spill. Finally, the focus on ship-sourced pollution in oil spill training and preparedness meant that the NatPlan and the NMOSCP has not been utilised to respond to platform-sourced oil pollution. Whilst the NatPlan and NMOSCP provides a clear regulatory and response framework for a distressed ship that is leaking oil, or for oiled ports, the plans have no such framework for petroleum platform-sourced oil pollution. Unless and until a contingency plan is developed for platform-sourced pollution, there is a possibility that a regulatory failure will enable another damaged oil well to leak oil for over 100 days. NatPlan and NMOSCP have provided capable management of recent ship-sourced pollution, particularly in Queensland. It would appear that offshore petroleum activities require a regulatory framework to assist with oil spill management and response to ensure that these spills are contained as efficiently and effectively as ship-sourced pollution. The development of a specialised *National Offshore Petroleum Activities Oil Spill Response Plan* may well ensure a disaster response, rather than a disastrous response.