

Chapter 6

Capacity to prevent, and mitigate the effect of an oil spill

6.1 This chapter explores the capacity of government and private interests to mitigate the effect of an oil spill in the Great Australian Bight. A number of submitters raised concerns that BP lacked the capacity to effectively prevent and contain an oil spill. Many of these submitters referenced BP's response to the Deepwater Horizon disaster, and Australia's response to the Montara oil spill.

6.2 The committee also received evidence from BP, the Australian government, and response agencies such as the Australian Marine Oil Spill Centre (AMOSC) detailing response and recovery strategies which would be implemented in the event of an oil spill.

Regulatory requirements

6.3 The regulatory requirements in relation to oil spills are provided for in a range of legislative instruments and policies.

Oil Pollution Emergency Plans

6.4 As has been noted in Chapter 2, the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* require a titleholder to prepare and maintain an Environment Plan. The Environment Plan must have an implementation strategy that must include an oil pollution emergency plan (OPEP). The OPEP provides details of response and monitoring arrangements in the event of an oil spill based on the unique characteristics of both the proposed activity, and the surrounding environment. The OPEP must include information on control measures, response capability, and monitoring capability. It is intended to ensure that the titleholder has demonstrated its ability to quickly and effectively respond in the event of an oil pollution emergency.

6.5 Assessment and approval of the OPEP is a critical part of the Environment Plan assessment process conducted by National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). An OPEP must include the following information:

- the control measures necessary for the timely response to an oil spill emergency. The control measures include the systems, equipment, personnel and procedures;
- the arrangements and capability that will be in place for the duration of the offshore activity to ensure the timely and effective implementation of control measures. This includes arrangements for ongoing maintenance of response capabilities;
- the arrangements and capability that will be in place to monitor the effectiveness of control measures in the event of deployment; and

- the arrangements and capability to monitor oil pollution to inform response activities.¹

6.6 OPEPs are considered to be living documents and are required to be reviewed and updated throughout the lifetime of the offshore activities to ensure the currency of response arrangements and capabilities. The OPEP along with other aspects of the Environment Plan are regularly inspected for compliance by NOPSEMA.²

Offshore Petroleum and Greenhouse Gas Storage Act 2006

6.7 The *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGS Act) and associated regulations establish a titleholder's responsibilities in relation to incident notification to both the NOPSEMA and potentially affected states and the Northern Territory. The regulatory regime also provides NOPSEMA, or the responsible Commonwealth Minister, to direct titleholders to take specific actions in response to incidents. It also requires the titleholder to clean-up and monitor the impact of an oil spill.³

6.8 The OPGGS Act also requires a titleholder, at all times while the title is in force, to maintain financial assurance sufficient to give the titleholder the capacity to meet costs, expenses and liabilities airings in connection with the carrying out of an oil and gas activity in the title area. The Department of Industry, Innovation and Science noted that 'the requirement is intended to ensure that the titleholder will have the capacity to meeting extraordinary costs, expenses and liability that go beyond the normal operational and commercial costs of engaging in the offshore oil and gas sector'.⁴

6.9 In the event of a titleholder failing to fulfil their obligations in managing an incident, NOPSEMA, or the responsible Commonwealth Minister, may carry out the failed actions. However, the titleholder remains financially liable for the costs associated with these actions.⁵

6.10 In the event of an offshore oil and gas environmental incident, the titleholder has responsibility under the OPGGS Act for emergency response.

- titleholders are required to report any incident to NOPSEMA within two hours of the first occurrence, or first detection of the occurrence, of the incident; and
- titleholders operate as the Control Agency in responding to a spill, as per their oil pollution emergency plan.

1 South Australian Government, *Submission 44*, pp. 6–7.

2 NOPSEMA, *Submission 7*, p. 27. See also South Australian Government, *Submission 44*, p. 7.

3 AMSA, *Submission 2*, Attachment 1, p. 22.

4 Department of Industry, Innovation and Science, *Submission 4*, p. 25.

5 AMSA, *Submission 2*, Attachment 1, p. 22.

6.11 Under the OPGGS Act an oil and gas titleholder must do the following:

- take all reasonably practicable steps to eliminate or control the escape of oil and gas, as soon as possible after becoming aware of it;
- clean up the escaped oil and gas and remediate any resulting damage to the environment; and
- carry out environmental monitoring of the impact of the escape on the environment.⁶

National Plan for Maritime Environmental Emergencies

6.12 The National Plan for Maritime Emergencies⁷ (the National Plan) sets out national arrangements, policies and principles for the management of maritime environmental emergencies. It provides a single, national, comprehensive and integrated response for minimising the impacts of marine pollution from spills and other maritime emergencies on: the environment; the community, cultural and heritage resources, the economy, and infrastructure.⁸

6.13 The National Plan has been operational since 1973 and is a cooperative arrangement between Commonwealth and state/Northern Territory governments and industry. It recognises that there is a need to maintain a shared responsibility in order to respond to spills in a timely and effective manner.⁹ The National Plan, in part, provides:

- detailed national, state, local and industry plans and communication arrangements for responding to oil pollution incidents;
- an adequate level of pre-positioned spill combating equipment, commensurate to the risk involved; and
- a comprehensive competency-based national training program which includes exercises.¹⁰

6.14 Marine pollution response plans are prepared by Commonwealth and state/Northern territory governments, and operators of offshore facilities. These plans contain the detailed arrangements required to implement the National Plan. NOPSEMA is recognised under the National Plan as the primary regulator of offshore

6 Department of Industry, Innovation and Science, *Submission 4*, p. 26.

7 The National Plan can be found as Attachment 1 to AMSA, *Submission 2*.

8 AMSA, National Plan for Maritime Environmental Emergencies, <https://www.amsa.gov.au/environment/maritime-environmental-emergencies/national-plan/>, (accessed 22 February 2017).

9 AMSA, *Submission 2*, p. 1.

10 AMSA, National Plan for Maritime Environmental Emergencies, <https://www.amsa.gov.au/environment/maritime-environmental-emergencies/national-plan/>, (accessed 22 February 2017).

petroleum activities. The National Plan also recognises offshore titleholders as Control Agencies responsible for ensuring that they have appropriate emergency response arrangements commensurate to the risk associated with their operations.¹¹

6.15 The Australian Maritime Safety Authority (AMSA) is responsible for managing the National Plan. It also represents the Australian Government at the International Maritime Organisation (IMO) in relation to Australia's obligations under the *International Convention on Oil Pollution Preparedness, Response and Co-operation 1990* (OPRC Convention) and the *Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances 2000* (OPRC-HNS Protocol).¹²

6.16 AMSA's functions include:

- maintaining the National Plan, and Commonwealth contingency plans;
- managing the National Response Team, including training and development;
- providing a national response equipment capability;
- coordinating the national training programme;
- maintaining uniform standards and testing protocols for oil spill dispersants and other chemical response agents;
- management of trajectory modelling; and
- managing the national fixed-wing aerial dispersant contracts.¹³

Titleholder strategies and response organisations

6.17 BP's Environment Plan Summary provides an overview of the strategies it proposed to employ in the event of a blowout¹⁴. In addition, two organisations, Oil Spill Response Limited (OSRL) and AMOSC, are able to provide oil spill response and cleanup services.

BP's Oil Spill Response Planning Strategic Overview

6.18 On 15 September 2016, BP released its Oil Spill Response Planning Strategic Overview¹⁵ (Strategic Overview) in conjunction with its oil spill modelling for

11 AMSA, *Submission 2*, p. 2.

12 AMSA, *Submission 2*, p. 2.

13 AMSA, *Submission 2*, p. 2.

14 A blowout is an uncontrolled release of crude oil and/or natural gas after pressure control systems have failed. Most oil rigs are now equipped with blowout preventers, however as seen in the Deepwater Horizon incident, these can fail.

15 This document can be found at http://www.bp.com/content/dam/bp-country/en_au/about-us/what-we-do/exploring-great-australian-bight/oil-spill-response-planning-strategic-overview.pdf

Stromlo-1 and Whinham-1. The Strategic Overview outlined BP's response strategies which can be divided into four planning zones: source, at-sea, near-shore, and shoreline.

6.19 BP's source control strategies included:

- the closure of the blowout preventer;
- the deployment of a remote operational vehicle;
- the deployment of capping stack technology; and/or
- the drilling a relief well.¹⁶

6.20 While source control activities are underway, BP stated that a range of at-sea response strategies would also be deployed. These included:

- subsea dispersant injection;
- surface dispersant application;
- containment and recovery and in-situ controlled burning.¹⁷

6.21 In the event that oil which has not been successfully dispersed, contained or removed near the source is likely to move towards the coastline. BP developed a range of near-shore response strategies which included:

- the deployment and use of strike team vessels with booms and skimmers to contain collect floating oil; and
- working with aquaculture operators to relocate stock.¹⁸

6.22 In the event that oil reaches the shoreline, BP developed a range of clean-up strategies. These were divided into three phases:

- Stage One – bulk oil removal from the shoreline;
- Stage Two – removal of stranded oil and oiled shoreline material; and
- Stage Three – clean-up of light contamination, and the removal of stains.¹⁹

6.23 BP also developed an oiled wildlife response strategy which firstly aimed to reduce the number of affected animals by preventing them from entering the

16 BP, *Oil spill response planning strategic overview*, 9 September 2016, p. 7. http://www.bp.com/content/dam/bp-country/en_au/about-us/what-we-do/exploring-great-australian-bight/oil-spill-response-planning-strategic-overview.pdf, (accessed 15 February 2017) . See also The Wilderness Society, *Submission 79*, Attachment 1.

17 BP, *Oil spill response planning strategic overview*, 9 September 2016, p. 9. See also The Wilderness Society, *Submission 79*, Attachment 1.

18 BP, *Oil spill response planning strategic overview*, 9 September 2016, pp. 9–11. See also The Wilderness Society, *Submission 79*, Attachment 1.

19 BP, *Oil spill response planning strategic overview*, 9 September 2016, p. 12. See also The Wilderness Society, *Submission 79*, Attachment 1.

contaminated area, and capturing and removing animals at risk. Secondly, the strategy sought to maximise the number of animals successfully treated and rehabilitated. Finally, the strategy included measures to collect dead and dying wildlife to reduce the risk of secondary exposure.²⁰

6.24 BP submitted that it also had access to response and recovery equipment from a number of sources including:

- OSRL which can provide capping and containment equipment, debris removal and dispersant equipment;
- AMOSC which can provide Australian Remote Operational Vehicle (ROV) tooling, debris removal and dispersant equipment package; and
- BP containment response equipment and tools.²¹

Oil Spill Response Limited (OSRL)

6.25 OSRL is an industry-owned organisation which provides oil spill response and cleanup services to members, including BP. In particular, the Subsea Well Intervention Services (SWIS) provides OSRL members access to a full subsea intervention capability which includes dispersant, capping, and containment. SWIS includes four capping stacks which are used to shut-in an uncontrolled subsea well, and hardware kits to clear debris and apply dispersant. BP submitted that the four capping stack systems are located around the world, and for a response in Australia, the capping stacks located in Singapore and Norway would be mobilised.²²

Australian Marine Oil Spill Centre

6.26 AMOSC, a not-for-profit marine spill response organisation wholly owned by the Australian Institute of Petroleum (AIP) provided the committee with a detailed submission which outlined the capabilities and resources available in the event of an oil spill. AMOSC stated that it 'considers there is currently a robust, proven and highly coordinated capacity to mitigate the effect of an oil spill in Australia.'²³

6.27 AMOSC stated that the capacity to mitigate the effect of an oil spill is underpinned by:

- oil spill response plans, preparedness and coordination at AMOSC, and national and international levels;
- full-time AMOSC staff of 12, dedicated to oil spill preparedness and response;

20 BP, *Oil spill response planning strategic overview*, 9 September 2016, p. 13. See also The Wilderness Society, *Submission 79*, Attachment 1.

21 BP Developments Australia Pty Ltd, *Submission 20*, Attachment 5, p. 8.

22 BP Developments Australia Pty Ltd, *Submission 20*, Attachment 5, p. 8.

23 AMOSC, *Submission 11*, p. 2.

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- established core group (120 personnel) of highly trained Australian experts drawn from member companies to respond to a spill;
 - the establishment, availability and location of specialised oil spill response equipment;
 - maintenance of international linkages to access capabilities and expertise;
 - the adoption of international best practices, regularly audited and tested via annual exercises;
 - a particular focus on Australian locations of higher risk for oil spills;
 - services of AMOSC also available to non-members through the National Plan; and
 - appropriate industry resourcing of oil spill preparedness and response capability.²⁴

6.28 AMOSC operates the Australian oil industry's major oil spill response facility with a stockpile of response equipment, and dedicated staff. AMOSC maintains stockpiles of equipment around the country with the main stockpile located in Geelong, three located in Perth, and additional stockpiles in Exmouth and Broome.

6.29 The stockpile in Geelong includes oil spill combat equipment, and containerised facilities to treat oiled wildlife. AMOSC stated that it has:

...procured two specialised and portable oiled wildlife treatment containers designed to work in hot and cold areas, and to be deployed in a very short time to a wildlife refuge centre. The wildlife containers constitute the formation of a treatment 'village' very similar to the wildlife model used successfully to treat thousands of animals during the New Zealand *CV Rena* response (2011).²⁵

6.30 As earlier noted by BP, AMOSC owns and coordinates the industry's subsea intervention equipment. This equipment is used to:

...undertake a seabed survey, clear debris away from the well-head, undertake Blow out Preventer intervention, and prepare the surrounding seabed for the arrival of a capping stack. The last intervention capability this equipment enables is the deployment of dispersant at the well head—this is made possible with additional equipment and tubing (provided by the RP) but the essential (long lead for delivery) mechanical pieces are in place to use dispersant subsea.²⁶

6.31 AMOSC also submitted that it owns 500m³ of dispersant which is capable of treating between 5–10 days of a free flowing subsea incident. It noted that should

24 AMOSC, *Submission 11*, p. 2.

25 AMOSC, *Submission 11*, p. 12.

26 AMOSC, *Submission 11*, p. 12.

further dispersant be required, domestic and international stocks would be sought. It stated that in addition, since 1996 there has been a contract arrangement through AMSA for the provision of six Fixed Wing Aerial Dispersant aircraft capable of deployment out to 200 nautical miles offshore. These aircraft are available to all AMOSC member companies, and the contract also allows for the provision of additional aircraft in the event that dispersant becomes the primary response strategy.²⁷

6.32 AMOSC commented that as an oil spill response organisation, it is subject to annual external audits to assess and ensure that its operational capabilities are fit for purpose. It stated that these audits also prove industry's capacity to adequately respond to oil spills for regulatory purposes. AMOSC also stated that it utilises an international assessment tool called RETOS which rigorously assesses its preparedness and response capacity. It noted that according to RETOS, AMOSC is a fit-for-purpose response organisation.²⁸

6.33 BP also submitted that it has access to the Subsea First Response Toolkit (SFRT) through AMOSC. The SFRT is similar to the equipment available through OSRL, however it is stored in Fremantle, Western Australia.²⁹

BP containment response equipment and tools

6.34 BP told the committee that its own containment response equipment and tools are complementary to those services provided by OSRL and AMOSC. It stated that following the Deepwater Horizon incident, a set of response and support equipment was assembled and can now be rapidly mobilised via airfreight from Texas to any of its operating sites. In addition, BP submitted that in the event of drilling occurring in the Great Australian Bight, it would maintain an inventory of oil spill response equipment at its Adelaide supply base.³⁰

6.35 Ms Claire Fitzpatrick, Managing Director, Exploration and Production, BP, outlined to the committee where response equipment would be available in the event of an oil spill in the Great Australian Bight. Ms Fitzpatrick stated:

There is equipment in a number of places. There will be equipment on the rig, there will be equipment on the supply vessels which will be in the area and there will be equipment at the supply base in Port Adelaide. We are members of the AMOSC First Response Toolkit, which does have kit in both Geelong and Freo, and we also have kit both in our warehouses in Houston and we have access through OSRL, which is an industry-wide

27 AMOSC, *Submission 11*, pp. 12–13.

28 AMOSC, *Submission 11*, p. 14.

29 BP Developments Australia Pty Ltd, *Submission 20*, Attachment 5, p. 9.

30 BP Developments Australia Pty Ltd, *Submission 20*, Attachment 5, p. 9.

consortium, in Singapore. So equipment will come from a number of places, but we will have stuff in South Australia available immediately.³¹

6.36 BP also commented that its internal standard requires the BP Containment and Response Team to mobilise and deploy a stacking cap, and containment equipment within 35 days. Ms Fitzpatrick stated:

...our internal standard of requirement is that we will not drill a well unless we are comfortable and confident that we are able to cap it within 35 days. We actually think we can do it faster than that; it is probably nearer to 20, but our internal standard is 35 and, therefore, our environmental plan has made reference to a 35-day scenario for the capping stack to be in place.³²

6.37 BP noted in its Environment Plan summary that it had conducted logistics studies on the schedule for the mobilisation and installation of OSRL capping stacks located in Singapore and Norway. It submitted that preparatory work such as debris removal will need to occur in anticipation of the arrival of this OSRL equipment, and BP equipment based in Texas. BP concluded that:

Detailed logistical studies have demonstrated that the transportation of the capping stack is not on the critical path for capping the well, as it is anticipated that it will be delivered in situ whilst preparatory work is being completed.³³

6.38 BP also submitted that each well to be drilled would have an individual Relief Well Plan to be implemented in the event of a blowout. The drilling of a relief well would occur parallel to the deployment of well capping and containment activities. The Environment Plan Summary provided to the committee stated that BP estimated it would take 149 days to kill the well. However it noted that this estimate was based on a worst-case time forecast.³⁴

Concerns with the adequacy of oil spill response strategies

6.39 Submitters questioned whether industry and government would be able to adequately respond to an oil spill in the Great Australian Bight. The Australian Marine Conservation Society (AMCS) commented that it did 'not believe government or private interests have the capacity to swiftly or adequately mitigate the effect of an oil spill'.³⁵

31 Ms Claire Fitzpatrick, BP Developments Australia Pty Ltd, *Committee Hansard*, 28 April 2016, p. 44.

32 Ms Claire Fitzpatrick, BP Developments Australia Pty Ltd, *Committee Hansard*, 28 April 2016, p. 43.

33 BP Developments Australia Pty Ltd, *Submission 20*, Attachment 5, p. 10.

34 BP Developments Australia Pty Ltd, *Submission 20*, Attachment 5, p. 10.

35 Australian Marine Conservation Society, *Submission 19*, p. 3.

6.40 The AMCS and many other submitters pointed to the harsh weather conditions and the remoteness of coastal areas in the Bight and argued that this will hamper efforts to prevent an oil spill, and clean-up activities. For example, the Conservation Council of South Australia submitted that:

...BP outlined a 35-day process to cap wells should a loss of well control be experienced in its Great Australian Bight operations. Conservation Council SA considers that this is an overly optimistic response time and is manifestly inadequate: the Great Australian Bight is a most physically challenging area in which to conduct operations.³⁶

6.41 Concerns were also raised in relation to the type of response equipment available and the length of time required in deploying response equipment. Mr Matthew Collis, International Fund for Animal Welfare (IFAW) commented that:

In IFAW's view there remain major question marks over the capacity to respond to a catastrophic oil spill in the bight. The bight is a harsh marine environment, meaning that the ability to successfully deploy responses such as oil containment and recovery is severely limited. There is also a big question mark over whether BP or government agencies have access to sufficient manpower to successfully undertake manual cleaning across potentially hundreds of kilometres of remote and sparsely populated coast in the event of oil reaching the shore.³⁷

6.42 Submitters also pointed to the response to the Deepwater Horizon incident, both in relation to the time it took to cap the well and its location in relatively calm waters near to major industrial areas. IFAW, for example, noted that it took:

...several attempts and nearly three months to cap the Deepwater Horizon well, which was located in waters as much as 1,500m shallower than the deepest locations in the proposed GAB site.³⁸

6.43 The Conservation Council of SA also commented on the Deepwater Horizon incident and noted:

BP's most recent marine oil disaster occurred on the doorstep of a highly populated oil industry region. Virtually all the infrastructure, supplies and staff used in the containment efforts were on hand. Sadly, this proved ineffective in mitigating the impacts of the oil on local fisheries, tourism and ecosystems. In comparison, the Great Australian Bight has a low population base, extremely limited infrastructure, and hundreds of miles of high cliff and inaccessible coastline.³⁹

36 Conservation Council SA, *Submission 13*, p. 2.

37 Mr Matthew Collis, IFAW, *Committee Hansard*, 28 April 2016, p. 27.

38 International Fund for Animal Welfare, *Submission 29*, p. 2.

39 Conservation Council SA, *Submission 13*, p. 2.

6.44 A further matter in relation to Deepwater Horizon was highlighted by Greenpeace Australia Pacific. Greenpeace stated that BP was unprepared for the conditions which hampered its early attempts to stem oil flows at Deepwater Horizon and as a consequence BP used ten different techniques to try to stem the oil flow. It also stated that 'governments globally have acknowledged that the industry is alarmingly unprepared across its operations for "black swan" events—events which they deem to be unlikely, but which once they have occurred, have devastating consequences'.⁴⁰

Weather and geography

6.45 A number of submitters highlighted the harsh wave and wind conditions which are seen in the Great Australian Bight and questioned how BP would be able to adequately respond to an oil spill in this operating environment.

6.46 The Humane Society International described the environment as 'extraordinarily rough, unpredictable and remote'⁴¹, while Mr Jeff Hansen, Managing Director, Sea Shepherd Australia described the Great Australian Bight as having 'the biggest, roughest seas in the world.'⁴²

6.47 Similarly, The Wilderness Society described it as:

...one of the roughest bodies of water on the planet, with bigger waves and stronger winds than the Gulf of Mexico. The Southern Ocean winds are now stronger than at any other time in the past 1000 years because of climate change, according to ANU researchers.⁴³

6.48 Ms Warhurst, Conservation Council of South Australia, told the committee that the geography of the Great Australian Bight would make the deployment of containment technologies such as booms and skimmers difficult. Ms Warhurst also stated that:

...manual clean-up will be really difficult, because what we are talking about along the coastlines particularly is really high cliffs. We have stretches of cliffs that are inaccessible for hundreds of kilometres and have no good shoreline at the bottom of them, yet there are marine creatures there, so that is a significant limitation on how we can effect any clean-up.⁴⁴

40 Greenpeace Australia Pacific, *Submission 22*, p. 4.

41 The Humane Society International, *Submission 3*, p. 2.

42 Mr Jeff Hansen, Sea Shepherd Australia, *Committee Hansard*, 16 November 2016, p. 17.

43 The Wilderness Society, *Submission 79*, p. 9.

44 Ms Kathryn Warhurst, Conservation Council of South Australia, *Committee Hansard*, 28 April 2016, p. 20. See also Australian Marine Conservation Society, *Submission 19*, p. 3.

6.49 The Kangaroo Island Council submitted that personnel from AMOSC had raised concern that booms to protect coastal areas from oil would not work in the Great Australian Bight. It stated:

Through field visits while preparing 'Tactical Response Plans' for BP, personnel from the Australian Marine Oil Spill Centre (AMOSC) have commented that the booms used to protect coastal areas from the oil will not work in our relatively exposed waters because of the size of the waves. BP has not provided an alternate solution.⁴⁵

6.50 Mr Hansen, Sea Shepherd Australia, similarly stated that:

If there were a spill there, it would be impossible to clean up. You cannot put these booms out and clean it up; you are just going to have to spray dispersant everywhere. Where is that going to go? It could go all over the ocean floor and destroy the whole basis of that marine ecosystem. It is just unacceptable for any company to operate in the Great Australian Bight. It is high risk.⁴⁶

6.51 IFAW also submitted that it was concerned about the capacity to deploy mitigation responses such as oil containment and recovery in the Great Australian Bight where weather conditions are harsh. It noted that high wave heights and wind speeds are common in the region, and that in the event that oil containment and recovery options are not feasible, the only remaining options are the natural weathering of oil, and the use of dispersants. IFAW submitted that both of these options would result in oils and chemicals left to persist in the environment for considerable periods of time.⁴⁷

6.52 BP's Oil Spill Response Planning Strategic Review acknowledged the constraints that weather and sea conditions may place on response activities. It stated:

Both containment and recovery and in-situ controlled burning (ISB) have many operational constraints within GAB, principally due to weather and sea-state constraints, and are not expected to provide significant benefit.⁴⁸

Personnel and access to infrastructure

6.53 A number of submitters questioned whether sufficient personnel would be available for response activities in the event of an oil spill. For example, IFAW questioned whether BP and government agencies have access to sufficient personnel to carry out the manual cleaning of remote and sparsely-populated coastlines in the event of oil reaching the shore.⁴⁹ Similarly, Mr Hansen, Sea Shepherd Australia told

45 Kangaroo Island Council, *Submission 78*, p. 6.

46 Mr Jeff Hansen, Sea Shepherd Australia, *Committee Hansard*, 16 November 2016, p. 17.

47 International Fund for Animal Welfare, *Submission 29*, p. 2.

48 BP, *Oil spill response planning strategic overview*, 9 September 2016, p. 9. See also The Wilderness Society, *Submission 79*, Attachment 1.

49 International Fund for Animal Welfare, *Submission 29*, p. 2.

that committee that the Deepwater Horizon disaster required thousands of vessels, aircraft and personnel to conduct response activities. Mr Hansen questioned where BP would source similar resources in the Great Australian Bight. Mr Hansen stated:

In contrast to the 20 clean-up boats highlighted by BP in the far rougher and more remote waters of the bight, the Gulf of Mexico disaster used 6,850 vessels, 117 aircraft, 46,000 personnel and 17½ thousand National Guard troops. If there were a spill in the bight, in far deeper, rougher waters, where is all that infrastructure going to come to support that, and who is going to pay for that?⁵⁰

6.54 The Kangaroo Island Council likewise submitted that:

In the Gulf of Mexico more than 6,500 boats were used in the containment and cleanup phase, plus BP had access to significant resources of the well-established oil industry operating in the adjacent shallow areas. South Australia and its neighbouring states firstly would not have that number of boats and secondly, based on the depth of the ocean and distance to the drilling site there are very few vessels (at best around 20) that can operate safely in the area.⁵¹

6.55 Mr Hansen also noted that there is little support infrastructure along the Great Australian Bight, which may hamper response activities in the event of an oil spill. Mr Hansen stated:

There is very little support infrastructure along that coast. It is not industrialised. So if there is a blow-out from where is all the infrastructure going to come to relieve it? If you look at what happened in the gulf and compare the huge arsenal of ships, aircraft and people who can do work on it, and it still took 87 days to cap the well.⁵²

6.56 The Wilderness Society noted that BP's oil spill response document stated that 122 people would be deployed to conduct wildlife cleaning activities and that additional volunteers could be trained 'just in time' if required. The Wilderness Society raised concern that 'this is the only reference to personnel numbers in the document and there is no reference to how much the recruitment, deployment and training of response personnel would cost or who would pay for this'.⁵³

6.57 The Humane Society International raised concern that in the event of an oil spill, BP would need to access critical response infrastructure that is based in Singapore and the United States of America. It also expressed concern regarding the

50 Mr Jeff Hansen, Sea Shepherd Australia, *Committee Hansard*, 16 November 2016, p. 16.

51 Kangaroo Island Council, *Submission 78*, p. 6.

52 Mr Jeff Hansen, Sea Shepherd Australia, *Committee Hansard*, 16 November 2016, p. 19.

53 The Wilderness Society, *Submission 79*, p. 10.

estimated 149 days required to complete the relief well, and stated that this 'would likely have catastrophic impacts on the marine environment.'⁵⁴

6.58 Dr Andrew Hopkins, Emeritus Professor at the Australian National University similarly expressed concern that both of BP's key response strategies—capping the well and drilling a relief well— will leave the Great Australian Bight exposed to pollution for long periods of time. Dr Hopkins submitted that exercises in the Gulf of Mexico have demonstrated that locally available capping stacks have shown that a blowout can be capped in 15 days. This is in contrast to BP's plan to bring a capping stack from Singapore, a measure which is estimated to take 35 days. Dr Hopkins stated that 'in this respect, BP's estimate of time it would take to cap a blowout is a long way short of industry best practice.'⁵⁵

6.59 Dr Hopkins also suggested that BP's proposed mitigation strategies in relation to drilling relief wells in the Great Australian Bight were 'well short of industry best practice' and that BP 'should rethink its approach to drilling relief wells.'⁵⁶ Dr Hopkins drew the committee's attention to regulation governing drilling in the Arctic which required 'that a relief rig be available nearby.' Dr Hopkins noted that when Shell proposed to drill in the Arctic, it intended on having two drilling rigs operating simultaneously so that in the event of a blowout, the other rig could quickly disconnect from the well and begin drilling a relief well.⁵⁷

Concerns with the ability of proponents to prevent an oil spill

6.60 A number of submitters also expressed concern in relation to the conditions of the Great Australian Bight—namely the depths of its waters, and the severe weather conditions frequently experienced there—and the impact of these conditions on the safety of oil drilling.

6.61 Dr Robert Bea, Emeritus Professor at the University of California Berkeley a, provided a Quantitative Risk Assessment of the Major Accident Event Risks associated with an uncontrolled blowout in the Great Australian Bight.⁵⁸ Dr Bea used information from comparable international drilling operations, and oil spill modelling provided by Mr Laurent Lebreton to The Wilderness Society.⁵⁹ Dr Bea concluded that the risk of an uncontrolled blowout occurring during BP's exploratory drilling was not

54 Humane Society International, *Submission 3*, p. 3. See also Ms Emily Mitchell, *Submission 47*, p. 20.

55 Emeritus Professor Andrew Hopkins, *Submission 64*, p. 6.

56 Emeritus Professor Andrew Hopkins, *Submission 64*, p. 7.

57 Emeritus Professor Andrew Hopkins, *Submission 64*, p. 7.

58 Emeritus Professor Robert Bea, *Submission 73*, p. 3

59 Emeritus Professor Robert Bea, *Submission 73*. See also Mr Laurent Lebreton, *Submission 35*.

As Low as Reasonably Practicable (ALARP). However Dr Bea also stated that with additional mitigation measures, the risk could be developed to ALARP standards.⁶⁰

6.62 With proposed drilling to occur at water depths up to 2200 metres, and at depths of up to 3000 metres into the seabed, the Humane Society International described it as 'deep-water drilling at the frontier of technical capacity'.⁶¹ The Australia Institute noted that in comparison, the principal oil and gas fields in the North West Shelf area occur in ranges between 125 and 131 metres.⁶² The Wilderness Society concluded that 'oil development in the Great Australian Bight is therefore riskier, rougher and potentially deeper than BP's Deepwater Horizon well'.⁶³

6.63 However, oil and gas exploration companies responded to concerns and noted that they had been undertaking activities successfully for many years. Santos Ltd, for example, commented:

Santos has been undertaking offshore petroleum activities for more than 30 years and, in that time, has developed an expertise in, and track-record of, safe and effective operation. The company's internal processes ensure that proposed activities in even the most challenging of offshore settings are well planned and carefully managed and, in the context of the Commonwealth waters of Australia, accepted by NOPSEMA as demonstrating that impacts and risks are reduced to ALARP.⁶⁴

6.64 A number of submitters expressed concern that BP would be using new technology to drill in the Great Australian Bight. For example, the Kangaroo Island Council submitted that:

The rig to be used in the GAB has been built specifically for this location as no oil exploration has ever occurred in waters as deep and as rough as the GAB. Realistically this rig is being used as a 'prototype' and the GAB as a trial location.⁶⁵

6.65 The Kangaroo Island Council went on to comment on the specific characteristics of the proposed rig:

The rig will not be anchored to the sea floor; it will only be connected by the drill pipe and is held in position by thrusters. The ability of these thrusters to hold the rig in position with the sea conditions that occur in the GAB will not be tested until the drilling is actually underway. Nor is it

60 Emeritus Professor Robert Bea, *Submission 73*, p. 3.

61 The Humane Society International, *Submission 3*, p. 2.

62 The Australia Institute, *Submission 37*, p. 3.

63 The Wilderness Society, *Submission 43*, p. 36.

64 Santos Ltd, *Submission 16*, p. 9.

65 Kangaroo Island Council, *Submission 78*, p. 5.

known what impact rig movement from wind, wave and swell exposure has on the integrity of the drill pipe.⁶⁶

Lessons learnt from Deepwater Horizon

6.66 The Deepwater Horizon disaster was raised throughout the conduct of the inquiry particularly in the context of BP's ability to both prevent, and recover from an oil spill. Concerns included BP's risk management culture, and whether BP had implemented recommendations from investigations of the disaster. Concerns were also raised as to whether BP had presented an Environment Plan that appropriately demonstrated that it had managed the risk to the Great Australian Bight to the required As Low as Reasonably Practicable (ALARP).

6.67 Dr Hopkins submitted that BP's report on the Deepwater Horizon disaster had only identified technical causes not the organisational causes, and that 'unless and until these are dealt with we can have no confidence in the precautions the company proposes to take' in the Great Australian Bight.⁶⁷

6.68 Dr Hopkins argued that a range of organisation or cultural issues contributed to the Deepwater Horizon incident. These included:

- A lack of centralisation – BP did not exercise sufficient quality control over the leaders of its business and sub-units. Dr Hopkins noted that as a result, BP created a new Safety and Operational Risk (S&OR) Function which employs staff in local business units, but who report directly to the S&OR management in London. Dr Hopkins submitted that BP needed to explain the role of the S&OR in its Great Australian Bight venture;⁶⁸
- Risk indicators – Dr Hopkins submitted that at the time of the Deepwater Horizon incident, BP was utilising incorrect risk indicators and argued that BP needed to demonstrate that it had developed an appropriate suite of risk indicators for risks in the Great Australian Bight;⁶⁹ and
- Risk complacency – BP's employees had become complacent with respect to the risk of a blowout and believed that everything was under control. Dr Hopkins submitted that one way to overcome complacency is to 'incentivise the reporting of bad news' and noted that at the time of the disaster, BP's management had discouraged the reporting of bad news. Dr Hopkins submitted that BP needed to demonstrate how it would encourage employees to report bad news in the Great Australian Bight;⁷⁰ and

66 Kangaroo Island Council, *Submission 78*, p. 5. See also Mr Jeff Hansen, Sea Shepherd Australia, *Committee Hansard*, 16 November 2016, p. 19.

67 Emeritus Professor Andrew Hopkins, *Submission 64*, p. 2.

68 Emeritus Professor Andrew Hopkins, *Submission 64*, p. 6.

69 Emeritus Professor Andrew Hopkins, *Submission 64*, pp. 3–4.

70 Emeritus Professor Robert Bea, *Submission 73*, p. 5.

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- Incentive payment schemes – BP instituted a system whereby employees at every level were required under their employment performance agreements to show evidence of having reduced costs to the company. Dr Hopkins noted that the company's official investigation into the Deepwater Horizon incident showed that on ten separate occasions, employees had accepted a higher risk in order to reduce drilling time and cost.⁷¹

6.69 Submitters such as Dr Bea, Sea Shepherd Australia and The Wilderness Society also noted findings by US regulators in 2016 that faulty sub-sea bolts may have been responsible for the Deepwater Horizon disaster. Sea Shepherd Australia raised concern that NOPSEMA's response to this issue was inadequate⁷² while Dr Bea stated that issues associated with sub-sea bolts should be 'effectively resolved before proceeding with the proposed BP GAB drilling program'.⁷³

6.70 BP provided the committee with evidence of its response to the Deepwater Horizon accident. It noted that an internal investigation into the event had made eight findings and 26 recommendations specific to drilling which BP as implemented across its worldwide drilling activities. In addition, the 'eight key findings of the Accident Investigation Report have all been directly addressed in preventative planning for operations in the Great Australian Bight'.⁷⁴ These were provided in detail in BP's submission.⁷⁵

**Senate Sarah Hanson-Young
Chair**

71 Emeritus Professor Robert Bea, *Submission 73*, p. 3.

72 Sea Shepherd Australia, *Submission 81*, p. 3.

73 Emeritus Professor Robert Bea, *Submission 73*, p. 23.

74 BP Developments Australia Pty Ltd, *Submission 20*, pp. 1–2, 13.

75 BP Developments Australia Pty Ltd, *Submission 20*, pp. 17–21.

