

# Regulatory Impact Statement

Review of the Financial Security Regime for Offshore Exploration and Production.

*Note: The document was finalised on 22 June 2017, prior to the draft rule released for consultation on 13 July 2017. It presents analysis from this point in time, with implementation costs still to be identified and Cabinet still to decide on changes to the level of assurance required for clean-up and compensation.*

*The RIS contains information regarding the costs of recent applications. It is important to note that these figures are based on initial applications, and do not take into account the cost of renewal applications, which are much lower (if the same assurance instrument is used). For example, a recent renewal application cost \$705, while the initial application three years previously cost over \$5,000.*

## Agency Disclosure Statement

This Regulatory Impact Statement has been prepared by the Ministry of Transport in close collaboration with the Ministry of Business, Innovation and Employment. It provides an analysis of options to resolve issues with the existing offshore financial assurance regime for oil and gas exploration and production in New Zealand.

### *Assumptions, dependencies and key gaps*

The regulatory impact analysis relies on oil spill modelling undertaken by Navigatus Consulting. Navigatus modelled spills of a “reasonable worst-case scenario” from exploration wells at three hypothetical locations. They also provided information on the characteristics of hypothetical spills from an existing production station in Taranaki.

The modelling has informed officials’ understanding of the potential costs arising from a spill, according to different locations and conditions. It has been used to develop a proposal for financial assurance requirements that is suitable for the New Zealand offshore exploration and production environment. However, it is important to note that in dealing with hypothetical situations, it does not definitively identify what will happen in the event of a significant spill and the costs as a result. Officials have compared overseas events and regulatory regimes as much as possible.

Precise data on the likely costs to industry of increased insurance is limited. This is due to the complicated nature of business arrangements in the oil and gas industry, with many joint venture agreements in place, and many of the venture parties being global companies. Multiple insurance policies are often in place to cover installations and these policies are not specific to that installation. Officials have based their conclusions regarding costs for permit holders of insurance requirements on information provided by the insurance sector and the oil and gas industry.

The RIS assumes default costs for deploying a capping stack in relation to calculations of the cost of well containment (should no information be available). These default costs are based on overseas experiences, with some slight differences due to New Zealand’s distance from the nearest available containment equipment in Singapore.

Officials are in the process of quantifying implementation costs and will be dependent on the agreed approach, but these are not available to be included in the RIS at this stage. The costs of implementation, as well as clarity on the timeframe for implementation, will be incorporated once the information is available.

*Further work required*

The options proposed will require amendments to Marine Protection Rule Part 102. Should proposed options be progressed and amendments finalised, there will be a transition period before the new rule comes into force to allow an implementation package to be developed. As part of implementation, a guideline will be developed to assist the industry in meeting the new requirements.

Subject to agreement on options to amend the financial assurance requirements, the guideline will provide guidance on assurance requirements. This would include acceptable insurance policies, how joint venture arrangements should be treated, and if the scaled approach is adopted, the modelling required of a worst-case scenario.

  
Advisor, Maritime and Freight  
**Ministry of Transport**

22 June 2017

## Executive summary

- This paper explains the outcome of a review of the financial security regime for offshore oil and gas exploration and production in New Zealand. It describes proposed changes to the regime resulting from the review.
- The financial security regime aims to ensure permit holders are financially capable of meeting the costs of their proposed activities, meeting their legal obligations, and covering their potential liabilities.
- The Ministry of Transport completed a review of the financial assurance regime. The review focused on the relevance, effectiveness and suitability of all elements of the regime.
- Three issues were identified with the financial assurance aspect of the regime. The financial assurance aspect sets out requirements for remediation and compensation in the event of a spill. These issues are:
  - there is no explicit requirement to demonstrate financial assurance for well control;
  - the minimum requirement of 14 million International Monetary Fund Units of Account (approximately NZ\$27 million) for assurance for clean-up and pollution damage is much lower than the likely cost; and
  - assurance requirements are incompatible with available insurance policies.
- Options to address these issues were analysed against objectives and feedback was gained through public consultation.
- Analysis and consultation has informed the following changes to the financial assurance regime:
  - The introduction of a financial assurance requirement that includes a cost estimate for well containment.
  - Limiting the scope that the financial assurance must cover, to address the gap between the assurance required under Part 102 and the coverage of available insurance products. This would not affect the liability requirements under the Act.
  - Amending the level of financial assurance for clean-up and pollution damage, either by increasing the current set level, or introducing a scaled framework. Cabinet is expected to indicate the preferred approach.
- The financial assurance requirements for offshore installations are established under *Marine Protection Rule Part 102: Certificates of Insurance* (Part 102), as provided for under the Maritime Transport Act 1994 (MTA). A draft amendment to Part 102 will be prepared in line with the first two changes listed above, and with Cabinet decisions on the preferred approach to the third change outlined above. Officials propose that further detail behind these requirements is developed in supporting guidelines, which will be consulted on with the oil and gas sector.

## Status quo and problem definition

- New Zealand uses the prevention-control-response-recovery framework for regulating offshore exploration and production. The primary focus is on minimising hazards and preventing spills from occurring by ensuring that permit holders<sup>1</sup> have plans, resources and capability in place to minimise the likelihood, and reduce the effect, of any adverse event.
- Appendix 2 outlines the legislative requirements that permit holders must satisfy.

## Financial security regime for offshore installations

- The regulatory framework for offshore installations includes a financial security regime that aims to ensure permit holders are financially capable of meeting the costs of their proposed activities, their legal obligations and their potential liabilities.
- In broad terms, there are four aspects to the financial security regime, which are managed by three different Crown agencies (and regional councils for activities in the territorial sea):
  - New Zealand Petroleum and Minerals (NZP&M) makes a financial capability assessment before granting a petroleum exploration or production permit to ensure permit holders have the financial means to carry out their proposed exploration or production activities.
  - The Environmental Protection Authority (EPA) can impose financial bonding conditions on marine consents for certain activities in the Exclusive Economic Zone (EEZ) and Continental Shelf to ensure permit holders appropriately deal with adverse effects of their activity.<sup>2</sup>
  - Maritime New Zealand (Maritime NZ) undertakes an assessment of the permit holder's technical and financial ability to contain an out of control well through their emergency response plans and procedures. This provided for *under Marine Protection Rule Part 131: Offshore Installations – Oil Spill Contingency Plans and Oil Pollution Prevention Certification (Part 131)*.
  - Maritime NZ also undertakes a financial assurance assessment to ensure permit holders have insurance or financial means to pay compensation to affected parties who experience prevention costs, clean up costs and damages associated with a pollution incident. This is provided for under *Marine Protection Rule Part 102: Certificates of Insurance (Part 102)*. Part 102 requires a minimum assurance level of 14 million International Monetary Fund (IMF) Units of Account, or approximately NZ\$27 million<sup>3</sup>.

---

<sup>1</sup> This RIS refers to owners and operators of offshore installations as 'permit holders', for consistency with terminology used in the Crown Minerals Act 1991.

<sup>2</sup> Similarly, regional councils can impose financial bonding conditions on resources consents for activities in the territorial sea to ensure operators appropriately deal with adverse effects of the activities authorised by the consent.

<sup>3</sup> As at 8 June 2017, 1 International Monetary Fund Unit of Account is equal to NZ\$1.93. Based on this rate, 14 million units of account equates to NZ\$26.99 million.

## Reviewing the financial security regime

- In 2009, the Government's Petroleum Action Plan was launched with the aim of ensuring New Zealand is able to maximise the benefit of the responsible development of its oil and gas resources.<sup>4</sup> As part of this, an independent review of the adequacy of New Zealand's health, safety and environmental legislation for offshore petroleum operations was completed in December 2010.
- The review made eight prioritised recommendations for strengthening the regime. As part of its response to the review, the Government asked the Ministry of Transport (the Ministry) to explore increasing the current minimum financial assurance requirement for offshore installations [EGI(11)165 refers]. Following initial work, and given the interconnectedness of each financial security assessment, Cabinet agreed in May 2014 to undertake a review of the financial security regime for offshore installations [EGI Min (14) 9/3 refers].
- Officials have reviewed each aspect of the financial security regime for offshore permit holders to determine their relevance, effectiveness and suitability. In doing so, officials have also considered whether the requirements for permit holders in the financial security regime are ordered appropriately, how they interact and which government agencies should be responsible for implementation.
- Officials have concluded that most of the financial security tests work well, and that the regime is phased appropriately. However, officials have identified issues with the financial assurance requirements for remediation and compensation under Part 102, which are listed below.
  - There is no requirement to demonstrate financial assurance for well containment, posing a risk that in the event of a spill, the amount of insurance held by a permit holder may be insufficient for covering clean up and remediation costs.
  - The minimum requirement of approximately NZ\$27 million is too low and does not ensure that adequate, effective, and prompt compensation will be available to those affected by a pollution incident.
  - Permit holders have experienced difficulty in obtaining insurance that can cover the full range of damage or losses for which permit holders are liable under the MTA. In particular, permit holders have found it difficult to obtain cover for third party loss of profit from impairment of the environment under conventional insurance policies.

## Financial assurance for remediation and compensation

- Under sections 385B and 385C of the MTA, owners of offshore installations are liable, in the event of a spill from their operations, for the full costs related to pollution damage incurred by other parties, and costs incurred by public agencies in preventing, controlling and cleaning up a spill.

---

<sup>4</sup> <http://www.med.govt.nz/sectors-industries/natural-resources/oil-and-gas/petroleum-action-plan>

- The MTA defines pollution damage<sup>5</sup> as damage or loss of any kind, including:
  - a) costs of any reasonable preventive measures taken to prevent or reduce pollution damage and any damage or loss occurring as a result of those measures
  - b) costs of reasonable measures of reinstatement of the environment that are undertaken or to be undertaken
  - c) losses of profit from impairment of the environment.<sup>6</sup>
- To provide an assurance that permit holders can meet their pollution liabilities, section 385H of the MTA requires permit holders to hold a Certificate of Insurance issued by the Director of Maritime NZ. Marine Protection Rule Part 102: Certificates of Insurance (Part 102) specifies the requirements and conditions applicable to certificates issued by the Director.
- Part 102 gives effect to compulsory insurance or financial guarantee provisions of the Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage (CLC), to which New Zealand is a party. The CLC was adopted to ensure that adequate compensation is available to persons who suffer oil pollution damage resulting from maritime casualties involving ships carrying oil as cargo in bulk. For ships, the level of insurance is required to match the potential maximum liability that an owner would face under the CLC in the event of a spill.
- No equivalent convention exists for offshore oil installations. Accordingly, Part 102 adopted the liability limit under the amended CLC at that time, as a minimum requirement for all offshore installations. That limit of 14 million International Monetary Fund Units of Account, or approximately NZ\$27 million, is linked to the original figure for ships when the Protocol to the 1969 International Convention on Civil Liability for Oil Pollution Damage was developed in 1976.
- Maritime NZ must issue a Certificate of Insurance once a permit holder provides evidence of external financial assurance, such as insurance or other financial security that meets the scope of its liabilities, and is at least the amount specified in Part 102.<sup>7</sup>
- Part 102 allows permit holders to use a range, and combination, of financial security products to meet their assurance requirements. The MTA requires that assurance must be provided by an external source to ensure affected parties have a clear avenue to claim damages in the event that a permit holder may not have the financial ability to meet the liabilities associated with a spill event.

---

<sup>5</sup> Definition provided in section 385A.

<sup>6</sup> Under paragraph (d) of the definition in section 385A, pollution damage only includes costs relating to the impairment of the environment referred to in paragraphs (b) and (c).

<sup>7</sup> Part 102 implements the CLC requirement for vessels carrying oil as cargo to have certificates verifying existence of public liability insurance sufficient to cover their liability under the Conventions.

## Issue one – well containment<sup>8</sup>

- There is no requirement for permit holders to provide financial assurance under Part 102 specifically for well containment. This creates a risk for the Crown that, should it or any contracted parties have to respond to an incident, there is no guarantee of cost recovery. Affected parties are also at risk, as they may have to take claims through the courts at their own expense, without guarantee of success.
- Permit holders already typically hold insurance policies that specifically include well containment costs that they may themselves incur. Conventional insurance policies provide hierarchical protection against the costs and damages associated with an out of control well. The total insured value would first be allocated to pay out the cost of controlling the well, with remaining funds from the policy put towards clean-up, compensation, and damages. Without well containment being explicitly considered in calculating the total level of financial assurance required, the level of insurance an permit holder has may be insufficient to cover clean up, compensation and damages.

## Issue two – level of financial assurance for clean-up and remediation

- The level of financial assurance was reviewed due to concerns it did not reflect the likely costs of a spill. Should a spill occur, and the costs of clean up and compensation exceed the current minimum level of financial assurance, a permit holder may not have the means to meet their liability for pollution damage.
- Based on previous international incidents<sup>9</sup>, requirements in other jurisdictions<sup>10</sup>, and modelling in New Zealand<sup>11</sup>, any significant incident is likely to exceed the current minimum level of NZ\$27 million.
- Modelling of New Zealand conditions undertaken by Navigatus Consulting indicated the damage caused by a spill could vary considerably. The costs are dependent on the ocean and weather characteristics at the location of the spill, and the characteristics of the oil spilled. The estimated median damages from hypothetical exploration well blowouts in three locations are shown in the table below.

**Table 1: Costs of hypothetical worst-case oil spill scenarios**

	<b>Deepwater Taranaki</b>	<b>Pegasus</b>	<b>Canterbury</b>
<b>Nature of spill</b>	Persistent Maari crude proxy (1,555,655 barrels)	Non-persistent Pohokura crude proxy (1,489,560 barrels)	Non-persistent Pohokura crude proxy (425,542 barrels)
<b>Clean up cost of median model run (\$)</b>	799 million	56 million	12 million
<b>Cost to tourism industry of median model run (\$)</b>	123 million	0	0

<sup>8</sup> Well containment refers to methods or technologies used to stop flow from a well which has suffered an uncontrolled release of hydrocarbon, after conventional pressure control systems have failed.

<sup>9</sup> The clean-up costs for the 2010 Deepwater Horizon well blowout in the Gulf of Mexico are in excess of NZ\$16 billion, with at least an additional NZ\$9 billion paid to local residents for compensation. The cost of the 2009 Montara well blowout in Australia was approximately NZ\$250 million.

<sup>10</sup> The United Kingdom requirement ranges from US\$250 million to US\$500 million (in addition to the Offshore Pollution Liability Agreement commitment of US\$250 million held by all operators), Australia ranges from AU\$10 million to AU\$500 million, while the United States ranges between US\$10 million and US\$150 million.

<sup>11</sup> Modelling has indicated the cost of reinstating the environment of a spill in the Deepwater Taranaki Basin could be NZ\$799 million – over 14 times greater than a spill of a similar size in the Pegasus Basin.



<b>Cost to fisheries industry of median model run (\$)</b>	4 million	2 million	0
<b>Total cost (\$)</b>	926 million	58 million	12 million

- Based on the modelling, permit holders are not required to provide financial assurance that is proportionate to the potential costs of clean up and compensation to other parties' damage from their installation.
- In the event of a major incident, the current level exposes the Crown and other parties to a risk of non-recovery for clean-up costs and pollution damage. The Crown may face pressure to provide compensation to the public if the owner or permit holder is unable to meet damages awarded against them. A permit holder's failure to pay all response costs and compensation in the event of a spill would also undermine confidence in the industry.

### Issue Three – coverage issues with conventional insurance policies

- As part of their normal business operations, permit holders already hold insurance of a level well above the current minimum financial assurance requirement. However, the insurance market faces difficulties in providing policies that cover all types of liabilities that permit holders have under the MTA.
- Specifically, conventional insurance policies do not typically provide cover for third party losses of profit from impairment of the environment.<sup>12</sup> While a small number of permit holders currently hold customised policies that cover such losses of profit, the insurance market has indicated that these policies are unlikely to be available to cover a significantly higher level of financial assurance requirement that included third party losses of this type.
- In the absence of acceptable insurance policies, permit holders would need to use another form of financial guarantee to meet the requirements of Part 102 and be issued a Certificate of Insurance. For example, some permit holders currently use parent company guarantees. However, at a significantly higher level of financial assurance, companies are unlikely to have the ability to provide a parent company guarantee, or other form of guarantee such as a bond, given the demands this would place on companies' capital.

## Objectives

- In determining an appropriate response to the issues raised above, the objectives of the review are to:
  - increase protection to the Crown from costs and losses resulting from an oil spill incident, by ensuring permit holders provide sufficient financial assurance for costs and pollution damages;

---

<sup>12</sup> For example, in a scenario where someone suffers a loss of income resulting from environmental damage but where no physical damage has occurred to their property.



- minimise compliance costs, including the direct cost<sup>13</sup> of the assurance mechanism and ancillary costs<sup>14</sup> for permit holders<sup>15</sup> and the Crown; and
  - provide flexibility to adapt financial assurance requirements to changing operating environments such as technological developments, improved modelling of impacts, and changing costs of clean up and damages.
- These objectives are complementary to the objectives of the MTA, in particular, to ensure New Zealand's preparedness for, and ability to respond to, marine oil spills.
  - These objectives will need to be balanced against each other in order to best resolve the issues identified above. The impact analysis below considers the extent to which the options impact on these objectives compared to the status quo.
  - Increasing protection to the Crown, through ensuring permit holders have sufficient financial assurance is afforded a higher priority, as it aligns with the objective of the MTA, as stated above.

## Options and impact analysis

### Issue one – well containment

#### Option 1A) Status quo

- The first option is to retain the status quo. The only requirements relating to financial ability for well control would be Maritime NZ's assessment of a permit holder's financial ability to give effect to their Well Control Contingency Plan under Part 131.
- Retaining the status quo would not increase protection to the Crown and the public, nor would it ensure sufficient financial assurance is provided. There would be no additional compliance or administrative costs under this option, as there would be no change to current requirements in relation to well containment. It also provides some flexibility for Maritime NZ to alter its assessments under Part 131 as technology develops and costs change.

#### Option 1B) Introduce a prescribed cost of well containment under Part 102

- The second option is to introduce well containment as a condition of the financial assurance requirement under Part 102. Under this option, well containment costs would become part of the total financial assurance framework.
- The calculation would broadly reflect the expected cost of containing a well blow out, including the cost of drilling a relief well and using a capping stack, in accordance with Well Control Contingency Plans required under Part 131. Permit holders with more complex well activities would therefore need to show a higher level of financial capability.

---

<sup>13</sup> Direct assurance costs are considered to be the cost of the insurance product or alternative form of financial assurance.

<sup>14</sup> Ancillary costs are considered to be all costs associated with the assessments, calculations, modelling and administration that could be required as part of a more robust regime.

<sup>15</sup> Changes in compliance costs to permit holders were treated as important if they were at a level that could make the New Zealand regime an outlier compared to other jurisdictions or could deter companies from investing in New Zealand.

- The combination of financial assurance for well containment and general pollution clean-up is similar to the United Kingdom (UK) and Australian requirements.
- For a basic well in the UK, the estimated cost to contain a well is twice the cost of drilling the original well, plus the cost of deploying a capping device. For a complex well, the estimated cost to contain a well is the cost of drilling the relief well outlined in the Oil Pollution Emergency Plan, plus the cost of deploying a capping device.<sup>16 17</sup> It should be noted that the UK system only applies to wells that produce naturally flowing oil. It does not apply to wells that produce gas only, or that produce oil using additional pressure support.
- Similarly in Australia, permit holders use two methods to estimate the cost of well control, with the higher estimate being adopted. The first method estimates that the cost of containing a well is twice the actual or estimated cost of drilling the original well, plus the cost of deploying a capping device. Alternatively, the second method estimates the cost by multiplying the daily rig costs by the time required to achieve well containment and adding the cost of deploying a capping device.<sup>18</sup>
- Adopting one of these internationally accepted calculations would:
  - provide a clear expectation to permit holders
  - increase the likelihood of permit holders being capable of meeting the costs of well containment without reducing the funds that could be paid to meet third party damages.
- An approach similar to Australia would provide the greatest protection to the Crown.
- For New Zealand conditions, the proposed cost of well containment would be the greater of the following two formulas for:

$\text{Cost of well control} = (2 \times \text{Estimated cost of drilling activity}) + \text{Cost of capping stack}^*$
--

\* In the absence of an permit holder's estimate, the default cost of a capping stack in New Zealand is NZ\$60m.

$\text{Cost of well control} = (\text{Estimated daily rig cost} \times \text{time to achieve well kill}) + \text{Cost of capping stack}^*$
--

\* In the absence of an permit holder's estimate, the default cost of a capping stack in New Zealand is NZ\$60m and the default time to achieve kill well is 120 days.

- Including well containment in the financial assurance framework would increase the likelihood that sufficient funds will be available to cover costs of clean up, damages and

---

<sup>16</sup>Basic and complex wells are defined in the *Oil & Gas UK Guidelines on relief well planning – subsea wells*. The status of a well in this regard is determined by a number of variables including the reservoir fluids, the presence of contaminants, the weather, the impact of the water depth on rig availability, the pressure and temperature in the well, any directional drilling issues in the design of a relief well and any unconventional design features.

<sup>17</sup> In the UK, US\$40m is the default cost of deploying a capping device for the purposes of calculating the cost of well containment.

<sup>18</sup> In Australia, A\$50m is the default cost of deploying a capping device for the purposes of calculating the cost of well containment. The default daily rig cost is A\$1m per day and 80 days is the default time required to achieve well containment.

compensation in the event of a spill. It would also provide better protection to the Crown and the public as a result.

- The cost to permit holders of meeting this option may increase. This will depend on whether they currently hold insurance that includes well containment costs, and whether this insurance is of a sufficient level to meet their financial assurance requirement. The cost to the Crown is likely to increase slightly. Extra resource would need to be employed to consider information provided by the permit holders about well containment.
- This option also provides flexibility to adapt to changing operating environments, by utilising improved modelling and allows for changing costs of clean up as a result.
- If this option is pursued amendments would be required to Rule Part 102.

## **Issue two – level of financial assurance**

### **Option 2A) Status quo**

- Under the status quo, the level of assurance required for pollution damage would remain at NZ\$27 million.
- As noted in the problem definition, the status quo exposes the Crown and other parties to a risk of non-recovery for clean-up costs and pollution damage. A set level of assurance does not reflect the likely costs and damages of an incident from individual oil and gas operations.
- Retaining the status quo would not increase the application costs for permit holders or administration costs for the regulator. Maritime NZ charges \$235 per hour to process applications for a Certificate of Insurance, but additional costs for external advice from legal insurance specialists typically make up the majority of application costs. The total application cost depends on the complexity of the application and the assurance instrument provided. For example, an application involving parent company guarantees for multiple installations cost \$6,000. Conversely, an application involving multiple companies with multiple insurance policies for one installation can cost well in excess of \$20,000.

### **Option 2B) Increase the minimum assurance requirement**

- An alternative option is to increase the current level of financial assurance required under Part 102, to NZ\$300 million.
- An increase would provide greater assurance that permit holders can meet their liabilities for clean-up costs and other pollution damage, and increase the protection to the Crown and public from costs and losses related to an oil spill.
- Given the variability in the type and scale of oil and gas installations, a single fixed level may place an unnecessary compliance burden on some permit holders, particularly for activities involving gas producing wells or those requiring artificial lift<sup>19</sup>. Lower risk permit holders may be forced to hold financial assurance that exceeds the likely cost of a spill

---

<sup>19</sup> Artificial lift refers to methods of initiating or increasing the flow of liquids (such as crude oil or water) from a production well. Such methods include use of mechanical devices in the well, such as a pump.

from their installation, and could be particularly prohibitive for smaller and domestic permit holders. In other instances, a fixed requirement may prove insufficient to cover the costs of high consequence potential spills.

- Based on the Navigatus modelling (discussed at page 7), a fixed requirement at any level raises issues. While it would better protect the Crown from the risk of bearing any clean-up costs, and the public from bearing the damage from oil pollution, it would likely be unreasonably high for permit holders working in other parts of New Zealand where the possible impacts of a spill are significantly lower. The Navigatus modelling indicates a significantly different risk profile for activities in Deepwater Taranaki than the Pegasus and Canterbury basins.
- Increasing the current fixed financial assurance requirement therefore creates a trade-off between increasing the amount of compensation available, and increasing the direct assurance costs for permit holders.

#### **Option 2C) Introduce scaled requirements**

- Another option is to adopt a scaled framework for requiring financial assurance in the offshore drilling environment, similar to that applied in Australia and the United Kingdom.
- This option would enable individual installations to be assessed and a financial requirement applied that reflects the potential impact of a spill from that installation. This option reflects the variability in risk profile for different types of wells and their location.
- A scaled approach would more accurately reflect the likely costs from clean-up or pollution damage of an incident resulting from a particular operation. It would therefore provide the greatest assurance that there will be compensation available to those affected.
- When developing the proposed scaled system for pollution damage, officials have considered requirements in other jurisdictions and relevant New Zealand specific modelling. Detailed information on the development of the proposed scaled system, including possible alternative approaches, is outlined in Appendix 1.
- Under this option, each installation would be allocated points based on the length of coastline impacted, volume of oil reaching shore (in bbl<sup>20</sup>), and the type of hydrocarbon released, based on modelling of a credible worst case spill from the installation. The total score would then be used to allocate the financial assurance requirement for that installation.
- The scaled system does not include a variable to take into account the impact on fisheries or tourism. The modelling undertaken by Navigatus indicated that most of the cost associated with a potential spill related to clean-up costs, while costs related to the tourism and fisheries sectors were relatively small.
- A summary of the proposed system is outlined below.

---

<sup>20</sup> A bbl is a barrel of oil, a standard unit of measurement of oil.

**Table 2: Summary of proposed banding system**

<b>Score A: Hydrocarbon type</b>							
Dry gas				Other			
0 points				1 point			
<b>Score B: Total length of shoreline oiled</b>							
0km		1 to 200 km		200 to 400km		400 to 600 km	
0 points		1 point		2 points		3 points	
600 to 800 km		Over 800 km		4 points		5 points	
<b>Score C: Total volume reaching shore</b>							
0 bbls	1 to 5,000 bbls	5,000 to 40,000 bbls	40,000 to 80,000 bbls	80,000 to 120,000 bbls	120,000 to 160,000 bbls	160,000 to 200,000 bbls	Over 200,000 bbls
0 points	1 point	2 points	3 points	4 points	5 points	6 points	7 points
<b>Total Score</b>							
<b>Score (total A + B + C)</b>		<b>Band</b>		<b>Financial Assurance Requirement</b>			
0		0 (Dry gas)		NZ\$25 million			
1		1 (No shoreline impact)		NZ\$50 million			
2-3		2		NZ\$100 million			
4-5		3		NZ\$200 million			
6-7		4		NZ\$300 million			
8-9		5		NZ\$450 million			
10-11		6		NZ\$600 million			
12-13		7		NZ\$800 million			

- The level of financial assurance required would vary from NZ\$25 million to NZ\$800 million, depending on the estimated impacts of a spill from each installation.
- An installation likely to release only dry gas<sup>21</sup> would have minimal clean-up costs and the lower financial assurance level of NZ\$25 million would therefore be appropriate. By contrast, an installation with a credible worst case scenario that involves a large volume of oil being released and impacting many kilometres of coastline would have significant clean-up costs and the maximum level of NZ\$800 million may therefore be appropriate.
- While the framework cannot accurately predict the cost of a spill, a scaled approach provides a better assessment of the possible pollution damages of an incident resulting from a particular installation. It provides the greatest assurance that there will be compensation available to those affected.
- A scaled approach would increase the financial assurance requirement for many installations. Those permit holders would be required to either adjust their insurance coverage, or find additional financial guarantees, to cover their new requirement. Industry has advised that the extra cost associated with these increased requirements would be significant, but small in comparison to the cost of operating offshore oil and gas installations.
- Such a requirement may also require permit holders to undertake oil spill fate modelling for their installation to enable their installation to be aligned to a financial assurance requirement band on the scaled framework. It may be possible to align this process with the modelling permit holders already undertake to inform their Well Control Contingency Plans, to avoid duplication of effort.
- If pursued, this option would require an amendment to Part 102.

<sup>21</sup> Gas with no liquid component.

## Issue three – coverage issues with conventional insurance policies

### Option 3A) Status Quo

- Under the status quo, permit holders would be required to provide an external financial assurance for all their liabilities set out under Part 26A of the MTA. This could include insurance or forms of external sources of financial security, such as parent company guarantees.
- However, conventional insurance products are unlikely to provide cover for all types of liabilities under the MTA, particularly third party losses of profit from impairment of the environment.
- Should a large spill occur, and in the absence of appropriate insurance cover, the resulting costs may exceed the level of financial assurance provided through alternative means. In this instance, compensation costs could be sought through civil proceedings, but with no guarantee of success.
- This option would retain the same flexibility for permit holders to meet their requirements. Flexibility would increase if appropriate insurance became widely available. If insurance did not become widely available, permit holders would have relatively few options to meet their requirements. Most permit holders would need to seek a parent company guarantee, although this option is not available to smaller permit holders.
- Retaining the status quo would not increase the application costs for permit holders or administration costs for the regulator. Maritime NZ charges \$235 per hour to process applications for a Certificate of Insurance, but additional costs for external advice from legal insurance specialists typically make up the majority of application costs. For example, an application involving parent company guarantees for multiple installations cost \$6,000. Conversely, an application involving multiple companies with multiple insurance policies for one installation can cost well in excess of \$20,000.
- However, the status quo does not meet the objective of increasing protection to the Crown and the public from costs and losses resulting from an oil spill incident by ensuring permit holders provide financial assurance for costs and pollution damages.

### Option 3B) Amend the scope of financial assurance required

- Another option is to amend Part 102 to limit the type of liabilities that the financial assurance must cover. Permit holders would remain liable for loss of profit from impairment of the environment in the event of an oil spill incident under sections 385B and 385C of the MTA but would not be required to provide any assurance that they can cover it.
- This option would address the apparent mismatch between the liability for which financial assurance is required under Part 102 and the coverage of available insurance products. It would effectively result in existing insurance policies being accepted as meeting their financial assurance obligation. This would not affect permit holders' unlimited liabilities for losses of profit in the event of an incident. Redress for pure third party economic loss would be through a civil claim.
- This option would not increase protection to the Crown. There is an increased risk of non-recovery for those who suffer loss of profit from impairment of the environment, as funds



for this aspect of liability would not be guaranteed. If a permit holder entered liquidation following a spill without paying the full cost of pollution damage, public confidence in the industry would be harmed. The Crown may also face pressure to provide compensation to those not covered by the financial assurance.

- This option would provide relatively more flexibility to permit holders to meet their requirements under Part 102. Currently, permit holders have resorted to providing parent company guarantees to meet their requirements. Amending Part 102 in such a way that enables permit holders to use insurance products would remove the need for permit holders to use parent company guarantees.
- It is also expected that this option would reduce direct assurance costs to permit holders, given they generally already hold insurance products that do not cover economic loss as part of standard business practice. They would not be required to seek guarantees from parent companies. Administration costs for the Crown are expected to remain the same as the status quo.
- Although there are differences between jurisdictions, this option is similar to the UK and Australia, where third-party losses of profit are not incorporated into financial assurance tests, but permit holders remain liable for losses of profit.
- Depending on the agreed approach to the level of assurance required, amendments to Part 102 may also be required to exclude seepage events from the financial assurance requirements. Permit holders would still be liable for pollution damage from seepage events, but would not be required to provide any assurance that they can cover it.

### **Option 3C) Introduce separate financial assurance requirements for different aspects of liability**

- The third option is to seek two separate financial assurances from permit holders that address different aspects of the liability they have for costs related to pollution damage under s385B and s385C of the MTA. This would ensure all aspects of liability are covered by financial assurance.
- Amendments could be made to allow or require a different financial product, such as a parent company guarantee, to provide an assurance for aspects of liability not covered by current insurance policies, such as losses of profit from impairment of the environment. The level of the two separate requirements could be adjusted to reflect the expected costs associated with these different aspects of liability.
- This option would provide a better level of protection for the Crown and those who suffer pollution damage as the level of financial assurance for each aspect of liability would reflect the likely cost for that aspect. However, a key consideration in determining the effectiveness of this option is the ability to model the expected costs for each aspect of liability.
- This option would provide relatively more flexibility (than the status quo) to permit holders to meet their requirements under Part 102. Permit holders would be able to use insurance to meet part of their requirements under Part 102, and provide a separate form of financial security to cover the requirement for assurance for losses of profit. If financial assurance for losses of profit was capped (despite liability being unlimited), insurance products would be more readily available.



- This option would increase direct and ancillary costs to a small extent if permit holders had to submit two separate products or mechanisms to satisfy the separate requirements under Part 102. It would also prejudice smaller permit holders who cannot provide parent company guarantees.

#### **Option 3D) Allow first party guarantees**

- This option would allow permit holders to use their own internal financial status to meet their obligations. Permit holders could use the strength of their balance sheet, credit ratings or other forms of self-insurance to demonstrate they have the financial capability to cover the full scope of oil pollution costs claims.
- This option was not consulted on. Allowing first party guarantees would lower protection to the Crown, the public, and other third parties against the risk of non-recovery of costs and damage incurred. There would be no guarantee that a permit holder's financial status would remain adequate across the duration of the certificate of insurance, unless regular audits were required, or that the assurance set aside would be used for the intended purpose. While allowing first party guarantees could meet the objective of providing greater flexibility, this may not be the case for smaller permit holders.

#### **Summary of options and objectives**

- Table 3 below provides a summary of the options and whether they meet the objectives of the review.

**Table 3: Summary of options and whether they meet the objectives**

	Objectives		
	Increase protection to the Crown and the public from bearing the costs and damage from a spill incident	Minimise compliance costs for permit holders and administration costs for the Crown	Provide flexibility to adapt to changing operating environments
<b>Issue 1 Well containment</b>			
Option 1A Status quo			
Option 1B Introduce prescribed cost	Ensures that funds are available for well containment and clean-up	May increase compliance costs due to estimating and checking well containment cost, depending on whether permit holders already have this factored in insurance policies	Calculating well containment costs separately allows for changes in well containment technology and processes
<b>Issue 2 Level of assurance for clean up and compensation</b>			
Option 2A Status quo			
Option 2B Increase the level	More so than status quo, but set level is arbitrary, which could mean not enough cover for some and too much for others	More compliance costs than status quo, especially for smaller permit holders, but less than for option 2C	Does not recognise different risks associated with different locations
Option 2C Introduce scaled requirements	Requires assurance at a level that is reflective of the risks associated with the activity	Higher compliance and administrative costs with modelling required.	Risk-based approach that allows for changes in technology and processes for containment and clean-up
<b>Issue 3 Compatibility with conventional insurance policies</b>			
Option 3A Status quo			
Option 3B Refine scope of assurance required	Risk of non-recovery for third party claims, could put pressure on Crown to provide compensation. However, these risks remain under the status quo, and are less likely depending on the other options adopted.	Compliance costs would reduce for permit holders as more likely to just require insurance policy; No change for Crown admin costs	Removes need for parent company guarantees
Option 3C Introduce separate requirements	More so than option 3B, but dependent on ability to model costs for each aspect of liability	Could require separate forms of assurance for different aspects of liability	Allows for separate forms of assurance to be used; capping third party liability allows for greater likelihood of insurance policies covering liability.
Option 3D Allow first party guarantees	Significant risk of non-recovery for the Crown and the public.	Compliance costs could increase if assurances are more closely scrutinised; greater administrative costs for regulator	Would provide flexibility, but may not be viable for smaller permit holders

Key:

Meets	Partly meets	Does not meet
-------	--------------	---------------

## Consultation

- Options for improving the financial security regime were discussed with industry representatives during development of proposals.
- Formal consultation on options to improve the financial security regime was held from 19 December 2016 until 20 February 2017. Submissions were received from the oil and gas industry. There were no submissions received from Māori, environmental groups or any other interested parties.

## Summary of submissions

- Submissions were generally supportive of the update of the regime and an increase in assurance requirements, but they did raise some issues with the proposed changes.

### Clarity of coverage

- Submissions noted that activities may have different associated risks and therefore should be treated differently by the regime. For example, submitters noted the difference between drilling, a well work-over,<sup>22</sup> or a well in a stable producing state. In a given period, permit holders may be carrying out some activities and not others, It is therefore important that the regime is clear about how it applies to the different activities and well types.
- Officials have received advice on the risks associated with different activities and well types. This showed that there is a risk of a significant spill from wells that are currently being drilled, wells undergoing work-overs and wells that are in a stable producing state. All of these activities will therefore be included under the financial assurance requirements. The only exclusion to this will be for installations that would not produce naturally without artificial lift technologies being used to extract oil.

### General legislation issues

- Submitters expressed concern with the structure of the current legislative regime for financial assurance under the MTA and Rule 102. They noted that the existing regime was originally intended for ships and does not adequately address the circumstances associated with offshore installations. For example, submitters noted that the definitions under the MTA for 'owner' and 'installation' do not align with the industry or with the definitions under the Crown Minerals Act 1991 (CMA). Submitters asserted that the proposed changes work around these issues rather than fixing it.
- Officials consider that changes to primary legislation are not essential for giving effect to the changes proposed in this RIS. Changes to primary legislation would add to the time already required to amend Rule Part 102. This is not preferred because delay in changing the rule exposes the Crown to further risk, and industry have indicated a preference for changes to be made quickly in the interests of providing certainty.

### Feedback on options proposed in the discussion paper

- Submitters supported the following options:

---

<sup>22</sup> A well work-over is the process of performing invasive intervention, maintenance or remedial treatment on an oil or gas well.

- Option 1B: introducing a financial assurance requirement for well containment
- Option 2B: increasing the minimum financial assurance requirement for clean up and pollution costs; and 2C: introducing a scaled framework for financial assurance
- Option 3B: refine the scope of financial assurance requirements.

*Issue 1: financial assurance for well containment*

- Submitters supported option 1B, and expressed support for the use of the second formula proposed for calculating well containment costs.<sup>23</sup> However, there were some concerns with the formula, with some submissions stating that it might not be applicable to all situations. Submitters suggested alternatives, including allowing the permit holder to estimate the cost of well containment and using guidelines issued by Oil and Gas UK.
- Officials recommend that option 1B is adopted, and that the required calculation of well containment costs be considered further during development of supporting guidelines. Officials recommend that the cost calculation be finalised after the rule is drafted, but before the rule comes into effect, as part of the transition period (discussed further under Implementation Plan).

*Issue 2: level of financial assurance for clean up and compensation*

- Submissions supported the progression of either option 2B or 2C. Submitters raised the issue of higher ancillary compliance costs with a scaled framework, as applicants would be required to undertake modelling to identify their assurance requirements, and the complexities associated with this. However, submitters also acknowledged that it would address the impact of different locations and conditions for different installations. One submitter, a petroleum exploration and production company, expressly supported option 2B, and were concerned with the complexity of the scaled approach.
- On balance, officials recommend progressing option 2C. Option 2B (increasing the current level) would be a simpler approach, but at the same time the requirements should reflect the different costs associated with different locations and conditions.
- Officials acknowledge that in adopting the scaled approach in 2C, it is important that the approach is as easy as possible for permit holders to understand and apply modelling to banding system. Officials aim to do this by making requirements in the rule as clear as possible, and by working with the regulator and industry to ensure clear, instructive guidelines are developed. Furthermore, it may be possible to align this process with the modelling permit holders already undertake to inform their Well Control Contingency Plans under Part 131.

*Issue 3: coverage issues with conventional insurance policies*

- The discussion document proposed the following options for this issue:
  - Option 3A: retaining the status quo
  - Option 3B: refine the scope of financial assurance required

---

<sup>23</sup> Cost of well control = (Estimated daily rig cost x time to achieve well kill) + cost of capping stack

- Option 3C: introduce separate financial assurance requirements for different types of liability.
- The discussion document did not propose the option 3D as outlined in this RIS, on allowing first party guarantees.
- Submitters supported option 3B (refine the scope of assurance required), and expressly did not support options 3A (status quo) and 3C (separate financial requirements for different types of liability). Submitters noted that New Zealand's assurance requirements need to be compatible with available insurance products, and small or domestic companies may not be able to provide alternative forms of assurance for non-insurable regimes.
- Officials recommend that option 3B is adopted.

## Conclusions and recommendations

### Issue one – financial assurance for well containment

- On balance, officials recommend option 1B. Introducing a financial assurance requirement sufficient to cover the cost of well containment provides a high level of assurance that permit holders will be able to meet well containment costs without jeopardising their ability to meet other liabilities and while maintaining an approach consistent with comparable jurisdictions.

### Issue two – level of financial assurance required

- On balance, option 2C (introducing a scaled framework) is preferred. While option 2B provides a greater level of protection to the Crown and the public than the status quo, it is less economically efficient than option 2C. By providing a scaled framework, option 2C allows for greater variability based on hydrocarbon properties and weather and ocean conditions as identified in the modelling results. Based on these results, any fixed requirement is likely to be unreasonably high for some operations and/or irresponsibly low for others.
- This scaled option does create more complexity and as a result, higher compliance and administrative costs for industry and the regulator. However, permit holders are already required to provide oil spill modelling to Maritime NZ and the EPA, and officials expect that this modelling could be used to determine an appropriate financial assurance requirement. Officials will work with the regulator and with industry to ensure clear, instructive guidelines are developed to overcome some of the complexity associated with a scaled framework.
- Both options are consistent with overseas approaches. However, the scaled framework is more closely aligned with regimes in Australia and the United Kingdom.

### Issue three – compatibility of assurance requirements with conventional insurance policies

- Officials prefer option 3C, to refine the scope of financial assurance required. This would mean that applicants do not have to show assurance for third party losses of profit, but if this approach is adopted, it would be clear that such a requirement does not limit a permit holder's liabilities under the Act.
- While there is a risk of non recovery for third parties and a potential risk for the Crown as a result, this risk currently exists under the status quo and could be reduced if the recommended

options to address issues around levels of assurance and well containment costs are also adopted.

## Implementation plan

- The preferred options will be given effect through amendments to Rule Part 102, with further detail and guidance provided in new guidelines.
- An amendment to Part 102 will be drafted in line with the Government's agreed approach. It will remove the current requirement for financial assurance of 14 million IMF Units of Account. This will be replaced with more specific requirements for assurance in relation to well containment costs and for clean-up and remediation costs.
- The rule will list criteria for identifying the required assurance for these aspects. For well containment, the requirement will be ascertained by the following criteria:
  - the applicant's planned work programme during the period to which the certificate of insurance will apply
  - the location of the installation or installations to be covered by the certificate of insurance
  - the nature of the hydrocarbon being prospected for, explored, or mined
  - the efficacy of the permit holder's oil spill contingency plan under Marine Protection Rules Part 131, including, but not limited to, the resources immediately available at the installation.
- If the scaled framework option is chosen, the proposed rule will also provide the following criteria for identifying the required assurance for clean up and compensation:
  - the criteria listed above for well containment
  - the likely spread of pollution from the installation, with the assumption that the relevant oil spill contingency plans are implemented (as required under Rules Parts 131 and 130C)
  - the likely impact of pollution, including reasonable preventive measure by the Crown or marine agency to eliminate or reduce the impact, taking account of its likely spread and the risk of damage as a result.
- If the set level is chosen, the set level in the current rule will be replaced by the higher level of NZ\$300 million.
- The rule amendment will also explicitly exclude third party loss of profit from the required assurance for clean up and compensation.
- Officials note that further detail behind these requirements will be developed in a supporting guideline. The proposed guideline will provide guidance on:
  - acceptable insurance policies
  - what activities are covered by the financial assurance requirements (e.g. exploration, production)

- how Floating Production Storage and Offloading vessels (FPSOs) should be treated in relation to the scaled framework for clean up and pollution costs
  - how vessels should be treated when outside permit areas or when not engaged on exploration or mining activities
  - how joint ventures and companies with ownership of multiple installations should be treated
  - how the financial assurance requirements interact with other parts of the NZ regime for financial security.
- Officials propose that the amended rule come into force 12 months from the Minister's signing. This will allow for development of guidelines, in partnership with Maritime NZ and industry. It will also allow time for industry to ensure they will meet the new requirements, which will come into force in time for the 2018/19 drilling season.
  - The costs of implementation are still being quantified, and will be incorporated into the regulatory impact analysis once available. A more detailed implementation plan is also under development, by Maritime NZ in partnership with the Ministry of Transport and the Ministry of Business, Innovation and Employment.
  - The financial assurance requirements in Rule Part 102 are part of a wider financial security regime, as outlined earlier in this document. In implementing the proposed options, officials will ensure they fit with existing requirements in the wider regime.

## **Monitoring, evaluation and review**

- Maritime NZ and the Ministry of Transport will continue to monitor and review the new rule as part of their regular rules assessment.



# Appendix 1: Developing a scaled framework to calculate pollution damage

- This appendix outlines background information and modelling that would inform a scaled approach. Officials have considered requirements in other jurisdictions and relevant New Zealand specific modelling.

## Relevant New Zealand modelling

- The Navigatus modelling showed that the amount of spilled oil reaching shore and the extent of shoreline that is oiled are the best predictors of the clean-up and remediation costs from an installation.
- The modelling also showed that the losses of profit in fisheries and tourism were small relative to the cost of clean up following oil spills.
- Officials have developed a proposed framework to set the scaled financial assurance requirement predominately based on the length of coastline impacted and the volume of oil reaching shore.
- Hydrocarbon type is also included, because a worst case scenario involving a dry gas release would have lower clean-up costs than an oil spill, and heavier hydrocarbons are more persistent and may be more likely to reach shore.
- There is an expectation that oil spill trajectory modelling, which must be undertaken by permit holders as part of their Well Control Contingency Plan, will be utilised to provide evidence for the financial assurance scaled framework as well.

## The proposed scaled system for pollution damage

- This RIS proposes three variables be used to determine the impact of a spill in New Zealand:
  - total length of shoreline oiled
  - total volume reaching shore
  - hydrocarbon type.
- The sum of these scores is then used to allocate each installation in a cost band, and therefore set the financial assurance requirement for clean up costs.
- These variables are applicable to the New Zealand context as:
  - hydrocarbon type has a significant impact on the cost of an oil spill. Navigatus' modelling found that hydrocarbons that are more persistent typically resulted in greater clean-up costs.
  - Navigatus' work suggests both "length of coastline impacted" and "oil reaching shore" should be used as both affect the cost of clean-up.
  - many New Zealand wells require artificial lift for extraction. Two of the three variables will implicitly address wells that require artificial lift. For example – a well

requiring artificial lift will attract minimal scores for length of coastline impacted and volume of oil ashore.

### **Variable One: Hydrocarbon type**

- This variable accounts for the type of release expected from an installation. A worst case scenario involving a dry gas release would have lower clean up costs than an oil spill, so would be given a score of 0.
- Inclusion of the API of oil was considered as an additional factor, because heavier oils are likely to be more persistent. However, the potential impact of heavy crude oil is indirectly reflected in the other two variables. Heavy crude would weather less in the ocean than light crude, and therefore the amount washed ashore would be greater. Including more types of hydrocarbon into the framework would likely double count the impacts of an oil spill.

### **Variable Two: Length of shoreline oiled**

- This variable is based on the assumption that greater clean-up costs will be incurred when more shoreline is oiled. A length of coastline is considered impacted if, at any point in the model run, oiling is greater than 1 bbl per kilometre.
- The installation is assigned a score as a result of the length of oiled shoreline shown by the modelling.

### **Variable Three: Volume of oil reaching shore**

- This variable accounts for the total volume of oil (in bbl) reaching shore before any onshore weathering sets in. This calculation is based on the assumption that greater clean-up costs will be incurred when there is more oil ashore.
- Like the previous variable, the total volume of oil is modelled and the installation is given a score accordingly.

### **Total Score**

- Points from the three variables above are summed together to establish a total score, and this will determine where the installation sits in the scaled framework.
- To establish costs across bands, the clean-up cost for the median modelling scenario from the Deepwater Taranaki was used for the highest band of \$800 million. This scenario is considered a “reasonable worst case”. Lower bands were then shaped to fit the full range of modelling results as best as possible. A summary is provided below.

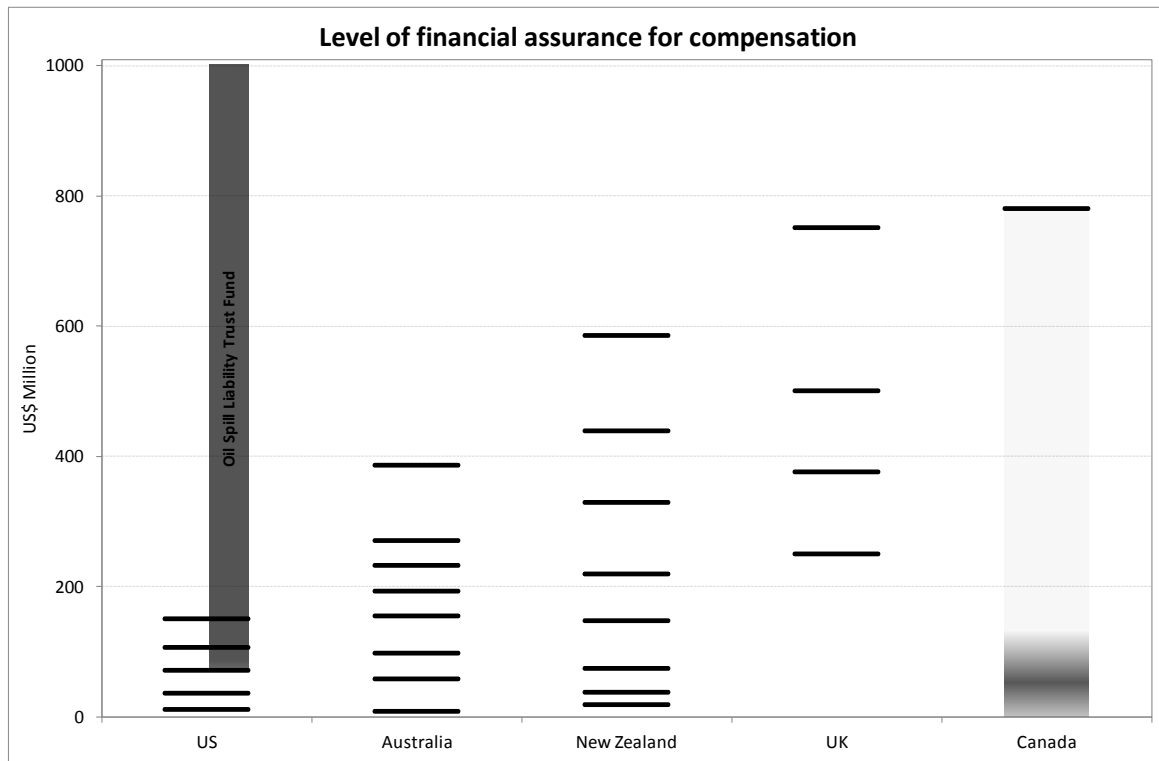
<b>Score A: Hydrocarbon type</b>							
Dry gas				Other			
0 points				1 point			
<b>Score B: Total length of shoreline oiled</b>							
0km	1 to 200 km	200 to 400km	400 to 600 km	600 to 800 km	Over 800 km		
0 points	1 point	2 points	3 points	4 points	5 points		
<b>Score C: Total volume reaching shore</b>							
0 bbls	1 to 5,000 bbls	5,000 to 40,000 bbls	40,000 to 80,000 bbls	80,000 to 120,000 bbls	120,000 to 160,000 bbls	160,000 to 200,000 bbls	Over 200,000 bbls
0 points	1 point	2 points	3 points	4 points	5 points	6 points	7 points
<b>Total Score</b>							
<b>Score (total A + B + C)</b>		<b>Band</b>			<b>Financial Assurance Requirement</b>		
0		0 (Dry gas)			NZ\$25 million		
1		1 (No shoreline impact)			NZ\$50 million		
2-3		2			NZ\$100 million		
4-5		3			NZ\$200 million		
6-7		4			NZ\$300 million		
8-9		5			NZ\$450 million		
10-11		6			NZ\$600 million		
12-13		7			NZ\$800 million		

- Under the proposed banding system, installations with only dry gas wells would have a total score of 0, and would need to provide financial assurance of NZ\$25 million. This reflects that these types of installations are likely to have an indicative clean-up cost that is significantly lower than oil fields.
- For installations for which the credible worst-case scenario has no expected shoreline impact, financial assurance of NZ\$50 million would be required. This level reflects there are likely to be fixed costs during a spill, such as reconnaissance, command and control, pre-emptive activation of response resources, and offshore containment efforts.
- For installations from which shoreline impacts are expected in a credible worst-case scenario, the level of financial assurance gradually increases as the volume of oil reaching shore and the length of shoreline oiled increases.
- The framework would also subject Floating Production, Storage and Offloading (FPSO) to the same type of assessment as fixed offshore platforms. An unexpected release from the FPSO storage vessel could produce clean-up costs similar to, or exceeding, the costs of a well blow-out. Where this is the case, modelling of a scenario in which the main tank of the storage vessel is lost should also be undertaken. This should then be assigned to a band, and if this is higher than the band for a blow-out of the relevant well, this will be the financial assurance requirement for the FPSO.

## Comparison with other jurisdictions

- Australia, the UK, and the US require permit holders to model a reasonable worst-case loss of well control event for their installation. This modelling is used by permit holders to estimate the expected cost of an oil spill and appropriate financial assurance requirement. All three then apply a scaled framework to determine the appropriate level of assurance based on the characteristics of particular operations. Regulators then review the permit holder's assessment to ensure it is appropriate.

- A visual comparison of the level of financial assurance required (excluding cost of well control) across jurisdictions outlined below. The diagram highlights that the proposed top band in New Zealand sits below the United Kingdom and Canada, but is higher than Australia and the United States.<sup>24</sup>



- The higher level for the United Kingdom reflects the more persistent oil types found in the North Sea, indicating a higher volume of oil would need to be cleaned up.
- Canada’s requirement, which includes well control, reflects its absolute no-fault liability level of US\$750 million. A lower or higher level can be required if warranted because of the risk and impact of the operation.
- The proposed levels in New Zealand are higher than Australia, reflecting New Zealand’s greater distance from Singapore, from which equipment would be mobilised to respond to an accident. It also reflects the higher persistence of the waxy condensate found in New Zealand relative to hydrocarbons found in Australia.
- The United States sets its financial assurance requirement considerably lower than the other comparator jurisdictions. This reflects the use of the Oil Spill Liability Trust Fund, an industry-funded mechanism, from which claims up to US\$1 billion above a liability cap (all removal costs plus US\$75 million) can be paid.

<sup>24</sup> Canada’s requirement, which includes well control, reflects its absolute no-fault liability level of US\$750 million. A lower or higher level can be required if warranted because of the risk and impact of the operation. The United States sets its financial assurance requirement lower than the other comparator jurisdictions. This reflects the use of the Oil Spill Liability Trust Fund, an industry-funded mechanism, from which claims up to US\$1 billion above a liability cap (all removal costs plus US\$75 million) can be paid.

## **Appendix 2: New Zealand Petroleum and Minerals Guide to Government Management of Petroleum**

The attached document outlines the legislative requirements that permit holders must satisfy.

Available at: <https://www.nzpam.govt.nz/assets/Uploads/our-industry/factsheets/management-petroleum.pdf>