18 August 2025

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s 9(2)(a)

F37338
By email

Dear s 9(2)

Official Information Act request – EORC material

In our reply to your Official Information Act (the Act) request, sent 21 May 2025 (our ref F36702) we informed you that we were refusing five documents under section 18(d) of the Act as the documents were being prepared for proactive release. These documents are detailed in the document schedule attached to this letter.

We had planned to proactively release these documents in conjunction with the proactive release of the Cabinet material but unfortunately this has not been possible. Therefore we are now releasing the Maritime NZ documents to you under the Official Information Act.

Some information has been withheld under the following grounds

6(a)	as release would be likely to prejudice the security or defence of New Zealand or the international relations of the New Zealand Government
9(2)(a)	to protect the privacy of natural persons
9(2)(b)(i)	would disclose a trade secret
9(2)(b)(ii)	to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information
9(2)(ba)(i)	to protect information which is subject to an obligation of confidence or which any person has been or could be compelled to provide under the authority of any enactment, where the making available of the information would be likely to prejudice the supply of similar information, or information from the same source, and it is in the public interest that such information should continue to be supplied
9(2)(f)(iv)	to maintain the constitutional conventions for the time being which protect the confidentiality of advice tendered by Ministers of the Crown and officials
9(2)(g)(i)	to maintain the effective conduct of public affairs through the free and frank expression of opinions by or between or to Ministers of the Crown or members of an organisation or officers and employees of any public service agency or organisation in the course of their duty
9(2)(h)	to maintain legal professional privilege

9(2)(j) to enable a Minister of the Crown or any public service agency or organisation holding the information to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations

We would like to apologise to you for the delay in getting this material to you.

In line with our recently adopted policy, we will be publishing this response on our website, but that will not happen before 21 August.

With regard to the information that has been withheld under section 9 of the Act, I am satisfied that the reasons for withholding the information at this time are not outweighed by public interest considerations that would make it desirable to make the information available.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Please note that this response (with your personal details removed) will be published on Maritime New Zealand's website.

If you wish to discuss this decision, please feel free to email us at ministerial.services@maritimenz.govt.nz.

Yours sincerely

s 9(2)(a)

Christine Ross
Manager, Communications and Ministerial Services

Doc #	Title of Document	Date	Decision
1	Maritime NZ – New Zealand's Emergency Ocean Response Capability – Indicative Business Case	8 November 2024	Some material withheld under sections 9(2)(ba)(i), and 9(2)(j)
2	New Zealand's Emergency Ocean Response Capability – Indicative Business Case Executive Summary	8 November 2024	Some material withheld under section 9(2)(j)
3	Final Report – Technical Support Report for the Detailed Business Case: Emergency Ocean Response Capability (EORC)	16 December 2024	Some material withheld under sections 6(a), 9(2)(a), 9(2)(b)(i), 9(2)(b)(ii), 9(2)(ba)(i), 9(2)(g)(i), 9(2)(j)
4	New Zealand's Emergency Ocean Response Capability – Detailed Business Case Executive Summary	11 February 2025	Some material withheld under sections 9(2)(f)(iv), 9(2)(j)
5	Maritime NZ – New Zealand's Emergency Ocean Response Capability – Detailed Business Case	3 March 2025	Some material withheld under sections 6(a), 9(2)(ba)(i), 9(2)(f)(iv), 9(2)(h), 9(2)(j)

Nō te rere moana Aotearoa
MARITIME NEW ZEALAND

New Zealand's Emergency Ocean Response Capability

Indicative Business Case

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Maritime New Zealand – New Zealand's Emergency Ocean Response Capability

Indicative Business Case

Document History

Version	Issue date	Changes
0.1	26 July 2024	First draft of the Strategic Case and initial qualitative options analysis
1.0	31 October 2024	Indicative Business Case completed – indicative commercial and financial case developed, Strategic Case and options analysis finalised.
1.1	1 November 2024	Updates following Ministry of Transport review
1.2	8 November 2024	Updates following Departmental Consultation
2.0	8 November 2024	Finalised – draft markings removed.

Document Review

Role	Name	Review Status
Project Manager	Dylan Page	Complete

Document Sign-off

Role	Name	Sign-off Date
Senior Responsible Owner	Graham Maclean	8 November 2024

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Glossary of terms

Term	Meaning
Emergency Ocean Response Capabilities (EORC)	A range of capabilities, including vessels, equipment, and crew qualified and capable of towing a large, stricken vessel in open sea conditions.
Emergency Towage (capable) Vessel (ETV)	For this work, this refers to vessels capable of undertaking some level of ocean-going towage work. ETVs are a key part of EORC. It is important to note that in the context of this work, the emergency towage capability of different ETVs will vary (so some vessels are able to provide ETV services in a wide range of conditions, whereas others are more limited).
First-strike capability	This is a locally based ETV capable of quickly reaching, stabilising, and holding a stricken vessel in place until a suitable towing vessel can arrive on the scene.
Second-strike capability	This is an ETV capable of towing a stricken vessel to the nearest suitable place of refuge following an initial 'First-strike'. A Second-strike capability does not need to be locally based and only needs to be able to arrive at an emergency within a reasonable timeframe.
Single-strike capability	This is an ETV that is locally based and can provide a combined First-strike and Second-strike capability in a single vessel. A Single-strike vessel would quickly reach a stricken vessel, stabilise the situation, and tow the stricken vessel to a place of refuge.

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Introduction

Several high-profile incidents involving large vessels in distress have highlighted the challenges faced by New Zealand in providing an Emergency Ocean Response Capability (EORC) nationally. These challenges are particularly acute in the Cook Strait region given its geographic constraints, high passenger and user numbers, and overall risk profile, but also apply more broadly around the coast of New Zealand.

Following the Interislander ferry *Kaitaki*'s loss of power in 2023, Maritime New Zealand (Maritime NZ) provided updated advice to Ministers on the limited access to EORC in New Zealand, including initial capability analysis. Maritime NZ further engaged with the market in late 2023 to understand the market's capability and capacity to deliver EORC.

As part of Budget 2024, Ministers directed Maritime NZ to continue to build on this work and further refine options for addressing the current lack of available EORC in New Zealand, with a particular focus on the Cook Strait region.

The purpose of this business case is to provide advice to the Ministers of Finance and Minister of Transport ("Joint Ministers") on the EORC options available to the Crown and support Ministerial decisions on future funding requirements.

This business case:

- Confirms the case for change and the need for investment;
- Sets out the objectives of any investment;
- Considers the options available to the Crown; and
- Provides a recommendation on the preferred way forward at this stage, including potential commercial arrangements and costs.

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The Strategic Case

The Strategic Case summarises the case for change for the EORC investment proposal. The following sections cover:

- An introduction to EORC;
- Maritime New Zealand (Maritime NZ) as an organisation and its wider strategic context;
- Overview of the status quo arrangements and the need for investment;
- Alignment of the proposed investment with wider national or sectoral priorities and goals, policy decisions, and with Maritime NZ's strategic intentions;
- The investment objectives and benefits of the investment; and
- The risks, constraints, and dependencies for the required investment.

Strategic Context

Background to EORC in New Zealand

New Zealand's search and rescue (SAR) capability

New Zealand's legislative framework for addressing domestic and international maritime incidents at sea is established by the International Convention for the Safety of Life at Sea (SOLAS). SOLAS Chapter V Regulation 7 outlines that New Zealand must provide an SAR service for vessels in its area of responsibility as far as is deemed practicable and necessary.

Current regulations and search and rescue capabilities are sufficient to meet the requirements of SOLAS Chapter V Regulation 7. New Zealand has an SAR system that can respond to immediate requirements for the rescue of crew and / or passengers from a vessel in distress. However, the SAR system cannot currently provide a response that prevents incidents from escalating and increasing the risk of environmental damage, loss of life, or the loss of the vessel if it founders.

In addition, while New Zealand maintains an oil pollution response capability, any response dealing with oil or dangerous goods will take some time to mobilise, and the ability to hold a vessel until it can be managed safely from an environmental perspective is also important.

Preventing significant maritime incidents in New Zealand's coastal waters from escalating requires an EORC. For the purposes of this business case, EORC is defined as the ability to stabilise and / or tow a large vessel in distress outside harbour limits until it can be dealt with safely.

Why is EORC required?

Vessels can get into difficulty through, for example, loss of propulsion / steerage, fire or other mechanical issues. Such situations can quickly escalate and create the risk of injuries, loss of life, environmental damage, and disruption to port and other activities. Serious events like this are becoming more common, and there has been a decline in the maintenance of ships in the post-COVID era, with the number of detainable deficiencies doubling in the Asia-Pacific region (i.e., 88 in 2019 to 177 in 2023).

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There have been several more recent high-profile incidents which have required ocean going towage capability around the coast of New Zealand. For example, *La Richardias* (loss of engine propulsion), *the Shiling* (loss of engine propulsion), and the *Manahau* barge (required towage to remove it from grounding).

In the Cook Strait, there have also been a range of incidents - notably the *Kaitaki* loss of power in 2023, the *Aratere* grounding, and the *Connemara* loss of power in 2024. These latter two incidents were fortunate to have not resulted in significant harm, to have occurred within harbour limits, and to have grounded on a sandy bottom. In these events, small harbour tugs, that are only designed to work in harbour limits, were the first response. It is unlikely these tugs would have been able to prevent the *Kaitaki* going into rocks (with potential for significant fatalities) and they struggled to manage the *Connemara* incident.

New Zealand primarily relies on commercial vessels of opportunity, where ocean-going towage capabilities are needed. However, access to these vessels is limited. There is now only one privately run ocean-going emergency towage vessel on the coast. This is the *MMA Vision,* operated by OMV and based in Taranaki. With declining oil and gas activity, this vessel is busy only a third of the time (so may not be able to respond at all times).

s 9(2)(ba)(i) [redacted] This would leave New Zealand with no vessel capable of towing large vessels and mitigating the risk of significant harms occurring and able to assist in post-incident operations. s 9(2)(ba)(i) [redacted]. This will leave New Zealand with no access to ocean-going towage capability during this time. The nearest response vessel is a minimum of five days away in Australia.

There is a growing public expectation that appropriate emergency arrangements will be in place to render assistance to vessels in distress and prevent loss of life, environmental, and / or economic damage.

Why the focus on the Cook Strait?

Having EORC available somewhere in New Zealand is critical but is not enough on its own. It needs to be available close enough to an incident to be able to render assistance in a relevant timeframe. As above, the only current vessel of opportunity is based in Taranaki supporting the oil industry and can take up to 12 hours to transit to the Cook Strait (the highest risk region in New Zealand) in the event of an emergency.

Given the recent high profile incidents involving vessels in distress, the unique geographic features, and the high passenger volumes in the Cook Strait (discussed later in the Strategic Case), Ministers directed Maritime NZ to consider EORC options focused on the Cook Strait as part of this business case. The business case also seeks to ensure that any case can also, where appropriate, mitigate broader risks and provide wider benefits to New Zealand's overall access to EORC.

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Maritime NZ's role in the provision of EORC and links to strategic objectives

Maritime NZ works to ensure that the oceans and waterways around New Zealand are safe, secure, and clean. This includes responding to maritime incidents to ensure safety of life through SAR coordination and protection of the environment from oil or other hazardous material spills.

Maritime NZ is the lead New Zealand operational agency for responding to ocean rescue in New Zealand waters, as mandated through SOLAS.

Maritime NZ has three key roles:

- Regulation and compliance;
- Provision of maritime safety infrastructure; and
- Response to incidents.

Maritime NZ develops, implements, and maintains the safety, security and environmental protection policies, regulations and rules that govern the operation of vessels, ports and offshore installations in New Zealand waters. This includes regulatory stewardship of the maritime system in New Zealand, administering New Zealand's international maritime obligations, and supporting the Minister of Transport and other parts of government to make informed decisions to do with the maritime system.

In delivering its statutory responsibilities, Maritime NZ has a responsibility for maintaining and implementing the country's maritime incident response system. It works with international partners, other government agencies, regional councils, commercial operators, recreational bodies, and communities to maintain response capabilities.

Maritime NZ currently funds its maritime incident response capabilities through a mixture of Crown funding, fuel excise duty, and Maritime / Oil Pollution levies paid by maritime users. This is discussed further in the Financial Case.

Alignment with Strategic Objectives

Effective responses to maritime incidents are a key part of Maritime NZ's strategic direction. Maritime NZ's 2024-28 Statement of Intent sets an outcome that New Zealand is ready and able to effectively manage incidents. A key indicator of progress to achieving this is that the response is timely, efficient and effective, which directly links to the expected benefits of an EORC in the Cook Strait.

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Figure 1: Maritime NZ Statement of Intent 2024-28, Page 7.

The operational strategy to achieve the SOI outcomes is set through Maritime NZ's 2022 Integrated Maritime Incident Readiness and Response Strategy. Goal 1 of the Strategy is that "*New Zealand can respond effectively to a significant or major maritime incident*". One of the sub-objectives of this goal (Obj 1.2) explicitly references that Maritime NZ will "*Develop, with industry, basic towage capability for emergency towing incidents*", with direct reference that Maritime NZ will bid for funding for this capability (i.e., this business case).

Stakeholders

The key stakeholders that have an interest in the expected outcomes or can influence the investment proposal have been identified in Table 1.

Table 1: Key investment stakeholders

Stakeholder	Interest	Influence	Comment
Ministry of Transport	High	High	Will involve directly in the working group
Treasury	Medium	High	Will seek views at key stage gates in the business case process
Ports	Medium	Medium	Will be involved during requirements gathering and market sounding activities
Harbourmasters	Medium	Medium	Will be involved during requirements gathering and market sounding activities
Maritime users	Medium	Low	Keep informed

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Key problem statements

Four key problem statements with the current provision of EORC capabilities in the Cook Strait were developed in a facilitated workshop in July 2024. These problem statements reflect the rationale underpinning this business case and inform the Investment Objectives (discussed on page 16).

The problem statements focus primarily on the Cook Strait. This is due to:

- The Cook Strait having a high-risk profile for maritime incidents potentially requiring EORC;
- The Cook Strait being of high public interest due to recent maritime incidents; and
- Ministerial direction and the Budget appropriation for this work specifying an EORC in the Cook Strait.

However, we believe it is critical that any additional capability proposed should also, where appropriate, mitigate the significant risk around New Zealand's coast relating to the potential lack of ocean-going towage capabilities and increasing risk. Any investment which results from this business case could also form the basis for a wider national EORC strategy.

Problem statement 1: The Cook Strait's unique constraints mean it presents a higher risk of maritime incidents requiring an emergency response.

New Zealand, and other jurisdictions, have seen an increase in actual or near miss events which have highlighted the lack of ocean-going towage capability in the vessel fleet across New Zealand. This need is particularly acute in the Cook Strait.

Cook Strait specific considerations

The Cook Strait is considered the highest risk region in New Zealand for a large vessel navigational incident (Figure 2).

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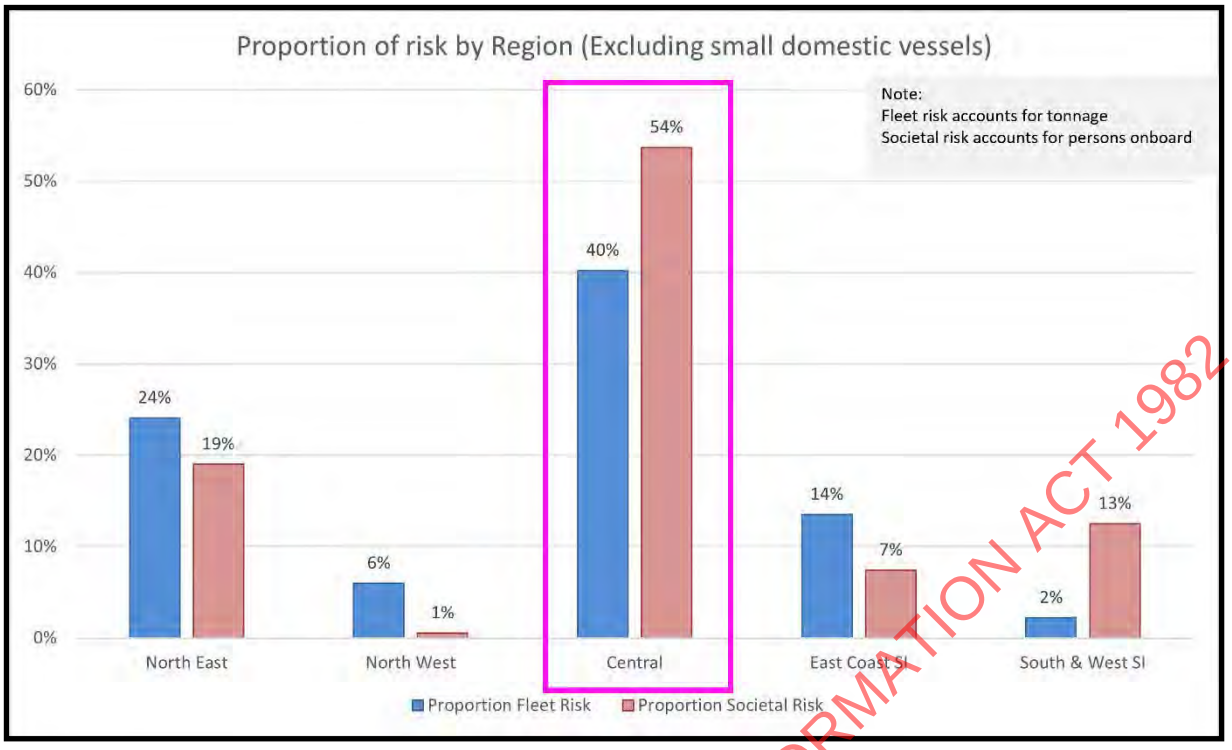

Figure 2: 2015 New Zealand large vessel navigational risk profile by Navigatus. This shows, relative to the rest of the country, the Central region (Cook Strait and surrounding areas) has the highest risk of large vessel navigational incidents. This is due to the sea state conditions, types and frequency of vessels and passenger numbers.

The Cook Strait is at an increased risk likelihood and risk impact for maritime incidents because of its:

- *Constrained geographic environment*

  With narrow entry points in the Marlborough Sounds (via the Tory Channel) and Wellington harbours, the likelihood of a vessel without power grounding is higher. A 2020 navigational risk assessment of the Tory Channel by GBT International found that there are several risks associated with passage through the entrance of the Tory Channel, including grounding and / or collision with other vessels or stationary objects.

  The review found these risks are managed 'reasonably well', but that residual risk will always remain, given that navigation in the areas is "*challenging, even for experienced navigators*".

- *Transit times*

  Incidents can escalate rapidly, particularly in poor weather conditions. The ability to quickly arrive at a stricken vessel and render assistance is key to preventing an incident escalating and increasing safety, environmental, and economic risks. If a response vessel is required to travel several hours to render assistance, it may be too late to prevent stricken vessels drifting, grounding, or becoming further endangered.

  As potential future incidents which will require EORC are more likely, on the basis of risk, to occur in the Cook Strait itself, the ability of EORC to quickly transit to the Cook Strait is key to making a meaningful impact in an emergency.

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- *Sea state conditions*

  Heavy seas, strong tidal flows and high winds make it higher risk to cross the Cook Strait than other parts of New Zealand. It also means that if a vessel gets into difficulties in rough weather, the time available to mount a response is significantly reduced as vessels could ground before assistance arrives.

  Sea conditions also impact the ability of inner harbour tugboats to reach the Cook Strait in certain conditions. For example, strong southerly swells could prevent small tugboats from reaching the Cook Strait at all.

- *Types of vessels*

  The frequency, age, and profile of vessels (i.e., cruise ships and passenger ferries) that cross the Cook Strait make it high risk to both the likelihood and impact of a maritime incident. If the current KiwiRail Interislander and StraitNZ Bluebridge fleets are replaced, this may reduce the likelihood of an incident occurring due to aging vessels, but will not materially affect the other risk factors. It would also be expected that brand new vessels would have an increased risk for incidents as they enter service. Even with new Interislander vessels, the risk in the Cook Strait will remain significant and much greater than other areas in New Zealand. There is also a need to maintain some emergency ocean going capability more broadly on the New Zealand coast. Risks arising from ageing and poorly maintained vessels are also present across the maritime industry across New Zealand, highlighting the need to consider EORC options that also mitigate risk beyond the Cook Strait, as demonstrated by the *Shiling* and *Manahau* incidents.

Recent high-profile incidents, five involving foreign vessels and two major incidents involving Cook Strait passenger ferries, have demonstrated the increased risk in the Cook Strait, and highlighted the use case for EORC in New Zealand. Two examples are illustrated below:

- **Container ship MV *Shiling* (2023):** The 290m *MV Shiling* was involved in three separate incidents in which the vessel was at risk of capsizing and running aground, was making unusual movements, and broke down with 24 people on-board. The *MV Shiling* was assisted in these incidents by the *Skandi Emerald,* another available commercial vessel with EORC based in Taranaki. Without the EORC provided by the *Skandi Emerald*, there was a risk of loss of life of those on-board or significant environmental impacts if the *Shiling* ran aground. It was subsequently towed back to Wellington with no loss of life or pollution caused. The *MV Shiling* was then escorted by the *MMA Vision*, a vessel also capable of emergency ocean towage, until 200 nautical miles off the New Zealand coast. The *Skandi Emerald* left New Zealand waters after its commercial contract ended, and the MMA Vision is expected to leave New Zealand in mid-2025.
- ***Kaitaki* Interislander ferry (2023):** The inter-island ferry *Kaitaki* issued a Mayday after it lost power with 864 passengers onboard. While propulsion was eventually restored, the vessel came within 12 minutes of running aground, which would likely have resulted in significant environmental damage and potential loss of life. In this case, while Wellington based harbour tugs were present, it is highly unlikely that they would have been sufficient to prevent the *Kaitaki* grounding due to high winds and rough sea conditions. An EORC, like some of the options discussed in this business case, would have been able to stabilise the vessel if its engine propulsion wasn't restored and prevent it from grounding.

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Problem statement 2: There are no vessels permanently based in New Zealand that have the capability to respond effectively to large vessels in distress.

New Zealand does not have any vessels permanently in our waters (i.e., vessels which will not leave after their commercial arrangements cease) that can respond effectively to large vessels in distress. There are few incentives for private operators, such as ports, to maintain the vessels or trained crew required for EORC. EORC vessels (with the capability to tow large ferries or container ships in rough sea conditions) are generally not suitable for inner harbour tug operations and have limited commercial usefulness outside of emergency response.

The only vessels with towing capability permanently based in New Zealand are harbour tugboats. These tugboats are capable of handling most day-to-day harbour towage needs. However, they do not have the capability to hold or tow large vessels in the open ocean, or operate in adverse ocean weather conditions due to the:

- Limited stern and short aft (rear) deck, which means that in adverse conditions, the vessel can get swamped (i.e., still upright but filled with water);
- Shorter length of the tugboats mean it is harder to control bigger vessels – and can lead to excessive pitching (i.e., movement up and down), poor directional control, and reduced Bollard Pull (i.e., the force to pull the vessel); and
- Limited fuel and water capacity, and crew accommodation, which prevents smaller tugboats from remaining at sea for longer periods.

There is an increasing need to ensure that there is EORC above what the current fleet of harbour tugs can provide in the event of a large-scale ocean emergency. As evidenced by the near grounding of the *Kaitaki* in 2023, harbour tugs cannot be relied on in adverse weather conditions or where large vessels require support outside of harbour limits.

Problem statement 3: Larger, more capable vessels of opportunity which have previously been relied on to tow vessels in distress have left, or are leaving, New Zealand waters and cannot be relied upon in the future.

In the past, many traditional tugs were able to operate in open water conditions and undertake ocean tow duties in poor conditions if required. Access to these traditional tugs in many jurisdictions, including in New Zealand, has declined sharply in recent years with the shift to more specialised harbour tugs. The reduction in offshore oil and gas activity in New Zealand also means that suitable commercial vessels are increasingly no longer available.

Some jurisdictions have access to sufficient commercial towing capable vessels to draw on in situations needing emergency towage, including contract vessels 'on standby' (e.g., covering 'high risk' coastlines), but many other countries are facing similar issues to New Zealand.

At present, New Zealand relies on 'vessels of opportunity' to tow large vessels in distress in the Cook Strait, and elsewhere in New Zealand. Vessels of opportunity are commercial vessels that can be requested to provide emergency ocean towage in the event of an emergency (often at a cost paid for by a stricken vessels insurer). Theoretically, there are two types of 'vessels of opportunity':

a) Single-strike: A vessel capable of being the first responder on the scene and holding, and in a narrow range of situations towing a large vessel in distress.
b) Second-strike: A vessel that is capable of towing the larger vessel to a place of safety. To be effective, a Second-strike vessel must have crew qualified and experienced in ocean-going towage and operating regularly so they are ready to mobilise. These are only ever likely to be based where there is a commercial need to

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tug large vessels like in the oil and gas sector, or in the future in areas like off-shore wind farms. This means they are unlikely to be operating in the Cook Strait and available to respond immediately.

There were previously two ocean-going towage vessels based in Taranaki that could provide the Second-strike response, i.e., large enough and with sufficient bollard pull to be able to tow ferries and large cargo vessels safely to port. Should the remaining vessels leave New Zealand, the nearest equivalent vessels able to respond would be in Australia, and could potentially take more than a week to be on station to assist in our waters.

Problem statement 4: A lack of available EORC increases the risk of environmental and economic damage, and potential loss of life at sea in the event of an emergency, especially but not exclusively in the Cook Strait.

With the risk of maritime incidents heightened in the Cook Strait, so are the impacts if an incident occurs. Without First-strike capability that can stop a large vessel in distress from grounding or capsizing, impacts can include:

- Injury or loss of life to passengers and crew; impacts exacerbated by volume of passengers transiting the Cook Strait;
- Cargo falling from the ship and onto the surrounding waters and coastlines; impacts exacerbated by the closeness to shore in the Marlborough Sounds;
- Fuel, and other dangerous goods, spillage from the ship onto the surrounding coastlines; impacts exacerbated by the marine reserves and habitats in the coastline around the Cook Strait; and
- Loss of economic activity for the vessel.

Without a close Second-strike capability to tow vessels back to shore, impacts can include:

- Lost economic activity for the vessel, including impacts to any passengers or cargo on board as a result of lengthy delays;
- Loss of access to coastal areas during and after a response; and
- Lost economic activity for other Cook Strait users.

These risks are also present to a lesser degree across New Zealand coastal waters.

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Impacts of a ship grounding: MV Rena

The MV Rena, a 236-metre container ship, ran aground on the Astrolabe Reef off the East Coast of New Zealand on October 5, 2011, causing a significant environmental and economic impact to the region.

The resulting oil spill led to the release of hundreds of tonnes of heavy fuel oil into the ocean, leading to widespread pollution of the marine environment and beaches. This contamination had severe implications for marine life, including seabirds and marine mammals, and caused long-term damage to the region's ecosystems.

The grounding also had a considerable economic impact on the affected area, particularly the tourism and fishing industries. The polluted beaches and waters significantly impacted the local tourism sector, through a decline in visitor numbers and revenue, and disrupted fishing activities in the region until the oil spill could be cleaned up.

The total salvage operation cost $700 million ($948 million in 2024 dollars), with $46 million ($62 million in 2024 dollars) footed by the Crown. An academic study in 2021, estimated non-salvage costs to the New Zealand economy at $99 million to $115 million ($113 million to $131 million in 2024 dollars).

While EORC would not have prevented this incident, it nonetheless highlights the impact of a large vessel grounding and breaking apart.

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Investment Objectives, existing arrangements & business needs

Investment Objectives

A facilitated case for change workshop was held with key stakeholders in July 2024 to agree the project's Investment Objectives. The Investment Objectives build on the problem statements described in the previous section and are used to guide the development of options later in the Economic Case. The three Investment Objectives (in order of priority) are:

- **Investment objective one: To reduce the risk of a major maritime incident in the Cook Strait, and more broadly in New Zealand, leading to loss of life and/or damage to the environment.**
- **Investment objective two: To ensure an EORC solution is capable of safely stabilising vessels in the Cook Strait and that there is access to a large towage vessel in adverse conditions on our coast.**
- **Investment objective three: To ensure that an EORC solution is able to respond to an incident in the Cook Strait in a timely manner.**

The following section sets out the current state of performance against each Investment Objective (the existing arrangements) and what Maritime NZ needs to do to support achievement of the Investment Objectives (business needs). The existing arrangements and business needs set the broader context for each Investment Objective and identify those areas that may need to be addressed as part of the options development.

Problems	Investment objectives			Benefits
PROBLEM 1: There have been a number of high-profile incidents requiring an emergency response in the Cook Strait and more broadly in New Zealand.	**INVESTMENT OBJECTIVE 1:** To reduce the risk of a major maritime incident in the Cook Strait (and more broadly in New Zealand) leading to loss of life and/or damage to the environment.	The Crown currently relies on vessels of opportunity to provide EORC in the event of a significant maritime incident. The Crown does not play a role in the provision of these services. Any costs being covered by the stricken vessel's insurer. There are currently no vessels based permanently in New Zealand that can provide rapid EORC to prevent incidents from escalating.	Maritime NZ needs to ensure that the capability is in place to prevent maritime incidents from further escalating and increasing the risk of loss of life, environmental, or economic damage.	**SAFETY:** The safety of maritime users is enhanced in the event of a significant maritime incident in the Cook Strait, with broader benefits to other vessels on our coastline.
PROBLEM 2: Existing port-owned tugboats do not have the capability to respond to large vessels in distress in the Cook Strait.	**INVESTMENT OBJECTIVE 2:** To ensure an EORC solution is capable of safely stabilising vessels in the Cook Strait and that there is access to a large towage vessel in adverse conditions on our coast.	Existing harbour tugs are sufficient to provide inner harbour services. However, they are not suitable for stabilising or towing large vessels in distress in ocean conditions, or large vessels which have grounded (i.e., in the Marlborough Sounds or Wellington's south coast). Although harbour tugs have responded to the recent Connemara and Aratere incidents, this was only because Connemara was within the harbour, and Aratere was lucky enough to ground on soft sand.	Maritime NZ needs to ensure that an EORC solution is sufficient to be able to respond to large vessels in distress in adverse conditions.	**ENVIRONMENTAL:** The environment is protected by rapid response to prevent accidents (such as vessels running ashore) or minimise the damage resulting from incidents. **FINANCIAL AND PHYSICAL CAPITAL:** Increased (economic) resilience in the Cook Strait.
PROBLEM 3: Vessels of opportunity which have previously been relied on to tow large vessels in distress have left, or are leaving, New Zealand waters and cannot be relied upon in future.	**INVESTMENT OBJECTIVE 3:** To ensure that an EORC solution is able to respond to an incident in the Cook Strait in a timely manner.	The capability to tow large vessels in distress has been limited to anchor handling vessels servicing the Taranaki offshore oil market. An EORC vessel based in Taranaki can take up to 12 hours to reach the Cook Strait depending on speed and sea conditions. This is too long to provide a first response capability. There is no reliable, ready to go, first response capability for large vessels outside the harbour limits that could deal with adverse conditions.	Maritime NZ needs to ensure that there is sufficient EORC available in the Cook Strait within an appropriate timeframe.	**FINANCIAL AND PHYSICAL CAPITAL:** The availability of EORC reduces the risk that a significant maritime incident in the Cook Strait causes damage to New Zealand's international reputation. It also has the broader benefit across NZ of limited impacts on supply chains.
PROBLEM 4: A lack of suitable EORC in the Cook Strait (and more broadly in NZ) increases the risk of environmental and economic damage, and potential loss of life at sea in an emergency.				

EXISTING ARRANGEMENTS

BUSINESS NEEDS

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The investment objectives identified above, collectively improve the effectiveness of New Zealand's maritime response capability by reducing risk in our busiest stretch of water (by passenger volume). They are preventative in nature. The overall outcome sought is the ability to respond in a timely, safe, and effective manner to stricken vessels in the Cook Strait, and the ability to tow heavy vessels anywhere. This can be measured by exercising and testing the EORC capability to ensure that it is currently, and remains, able to deliver these objectives.

Business needs

The following business needs have been identified:

1. There is a need to ensure that the capability is in place to prevent maritime incidents from further escalating and increasing the risk of loss of life, environmental, or economic damage.
2. There is a need to ensure that an EORC solution is sufficient to be able to respond to large vessels in distress in adverse conditions.
3. There is a need to ensure that there is sufficient EORC available in the Cook Strait within an appropriate timeframe.
4. This capability needs to provide value for money and could be through public or private provision.

These needs are all almost certain to continue to be present in the future. The requirement for an effective response capability is not time-bound, but rather represents an enduring mitigation to a risk that will remain present for the foreseeable future. While it does not reduce the risk to zero, and vessels capsizing, running aground, or otherwise having escalating incidents could still occur even with an EORC, it nonetheless makes a significant difference. Other partner countries, including Australia, the United Kingdom, and many European states have contracted or own EORC vessels to help mitigate similar risks.

Potential business scope and key service requirements

The scope and service requirements help to set the boundaries for the investment, which will be considered as part of the options assessment. They make it clear what is considered essential to the success of the investment (the minimum scope), what would create incremental benefit (intermediate and maximum scope), and what the investment cannot or will not seek to address (out of scope).

The potential business scope and key service requirements for the proposed programme were identified and assessed by stakeholders at the facilitated case for change workshop in July 2024. The scope elements consider a Ministerial direction received through Budget 2024 and the findings of previous Maritime NZ analysis of New Zealand's EORC requirements.

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Table 2: Potential business scope and key service requirements

Service Requirements	Scope Assessment			
	Core scope (Must address)	Desirable scope (Good to address)	Optional scope (Could address)	Out of scope (Won't address)
Location	• Cook Strait	• Retain emergency ocean-going towage capability more broadly around the NZ coast	• N/A	• International waters
Service provision	• The capability to secure, hold and tow a stricken vessel	• Emergency equipment requirements (e.g., winches) for vessels in the Cook Strait	• Ability to provide other maritime response capabilities (e.g., supporting oil spill clean-up, firefighting)	• Immediate capability needs (interim solution)

Main benefits

Potential benefits from this investment represent the intended (and sometimes unintended) gains for stakeholders. Most benefits derive from preventing, or limiting the damage of, a significant maritime incident such as a grounding for the stakeholders that are affected by an incident. These include:

- **Government**

  Direct Economic Benefits – there is direct economic benefit in avoiding cost to the government by having to salvage a significant maritime incident. The direct cost to the Government of the MV Rena cleanup was $46m ($62m in 2024).

  Indirect Economic Benefits – there are benefits in reducing or avoiding the negative impact on economic activity from an incident. This was modestly estimated as $100m ($115m in 2024) for the MV Rena, but would be considerably higher if it occurred in an area of significant economic activity like the Cook Strait or closer to Tauranga.

  Environmental Benefits – The environment is protected by rapid response to prevent accidents, such as vessels running ashore or vessels discharging hazardous substances.

- **Maritime operators**

  Direct Economic Benefits – direct economic benefit by reducing and preventing the cost to operators of an incident.

- **Maritime users**

  Safety – an incident will be less likely to result in a loss of life scenario if vessels can be stabilised. The New Zealand Transport Agency estimates the Value of a Statistical Life at $12.5m. 1.2 million people travel on the Cook Strait ferries every year, and the largest cruise ships that visit New Zealand waters can carry up to 4000 passengers.

- **Ports**

  Direct Economic Benefits – if a port tugboat is required to respond to an emergency, the port does not cost recover for the service. Ports may also have to suspend port

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operations while their tugboat is engaged, impacting both Port and wider commercial activity.

- **Oil and gas industry**

  Direct Economic Benefits – the offshore oil and gas sector relies on anchor handling tugboats (used as vessels of opportunity to date) for servicing and maintenance. However, there is not sufficient demand to keep these vessels in New Zealand permanently. Retaining a Second-strike capability in New Zealand could enhance the commercial viability of the oil, gas and seabed mining sector.

The actual impacts achieved will vary depending on the preferred way forward selected in the Economic Case.

Table 3 shows the potential benefits if the investment objectives mapped to the Treasury's Living Standards Framework (LSF).

Table 3: Primary potential benefits

	LSF Domains	Benefit
B1	**Safety**	The safety of maritime users is enhanced in the event of a significant maritime incident in New Zealand. This benefit would be exacerbated in areas of high patronage, for example the Cook Strait or Cruise Ship destinations. For example, in the Cook Strait the Interislander ferries can carry more than 800 people, with over 1.2 million passengers making the trip per year. This is expected to increase to 1.7 million in the next twenty years. Cruise ships also bring in large numbers of passengers - the largest cruise ships in New Zealand can carry more than 4000 passengers.
B2	**Environmental amenity**	The environment is protected by rapid response to prevent accidents (such as vessels running aground) which will minimise the damage resulting from incidents. Large-scale marine oil spills such as the *Rena* disaster are less likely to occur, along with other impacts on the environment from hazardous substances or the vessel itself.
B3	**Financial and physical capital**	Increased economic resilience across New Zealand. A major maritime disaster in the Cook Strait could significantly disrupt the economic trade between the North and South islands, as well as international imports and exports from the area's ports. This could be from blocking other vessels, impacts on port operations, and/or the removal of a vessel that was carrying people and cargo between the islands. Inter-island trade amounts to approximately $15B-$20B per year.

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	LSF Domains	Benefit
B4	**Financial and physical capital**	The availability of EORC reduces the risk that a significant maritime incident in the Cook Strait causes damage to New Zealand's international reputation. New Zealand benefits from a reputation as a country with good safety for foreign visitors and excellent natural capital. A major maritime incident could damage this reputation.

For a complete list of potential benefits see Annex 2.

Key constraints, dependencies and assumptions

This section sets out the constraints, dependencies, and assumptions that may affect the delivery of future options and benefits:

- **Constraints** are limitations imposed on the Programme proposal from the outset and include decisions already made, resource constraints, or other factors which cannot be changed (such as geographic limitations).
- **Dependencies** are the external influences on the success of the investment which the programme must align to, or where success is contingent on the future actions of others.
- **Assumptions** are factors which we assume will remain true for the purposes of the Business Case analysis and design of the investment.

Management strategies and registers will be developed to address these items and they will be regularly monitored and managed during the programme.

The investment is subject to the following constraints (Table 4).

Table 4: Key constraints

	Constraints	Notes
C1	Location constraints: Any First-strike capability will need to be based in or near the Cook Strait to be able to reach an incident in time to be effective.	Geographic, infrastructural, and commercial limitations mean that local EORC will be constrained in its potential response times, berthing options, and appropriate vessel types.
C2	Legal constraints: UNCLOS Freedom of Innocent Passage	Vessels passing through Cook Strait cannot be levied under international maritime law just for passage alone. This constrains some potential funding options.

The investment is subject to the following dependencies (Table 5):

Table 5: Key dependencies

	Dependencies	Notes & Management strategies
D1	We are dependent on any changes the size and type of ferries in the Cook Strait (i.e., potential consumers of EORC services).	The size and frequency of vessels that use the Cook Strait will impact the EORC required to service. Any changes to the size, type, and frequency of vessels procured will need to be managed in this business case. However, it is unlikely that any new vessels operating regularly in Cook Strait will be large enough that they would not

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		be able to be towed by a vessel with the technical specifications to operate in the current environment.
D2	We are dependent on the service provider being able to find suitable berthing space.	Suitable berthing space could be required at ports to implement any new EORC. Ports will be engaged through the RFI process. Service providers would be required to source berthing space directly with Ports.
D3	We are dependent on the market being able to provide an appropriate vessel and crew within budget.	Previous market engagement indicated that there are likely to be commercial providers who would be willing and able to provide EORC. It is likely that this can augment other commercial activities for them (see Economic Case for more detail).

The investment is subject to the following assumptions (Table 6):

Table 6: Key assumptions for the purpose of this business case

	Assumptions	Notes & Management strategies
A1	The vessels operating in Cook Strait will continue to be of similar size, or slightly larger, to the existing vessels (i.e., not materially larger).	In the absence of other information, we believe this to be a reasonable assumption. Any new requirements relating to vessels that frequently use the Cook Strait can be reflected during the procurement stage.
A2	Commercial operators who could provide EORC vessels of opportunity for the Cook Strait will not return to New Zealand for the foreseeable future.	The resumption of oil and gas exploration may generate work for vessels of this class but that would be relatively time-bound only as they were necessary for exploration activities, which could only be a few months. Given the timeframes for exploration activities to transit to extraction, it is not clear when or if these vessels will be permanently based in New Zealand again or whether they will be available when needed.
A3	Any interim EORC will not constrain the options or ability to implement a long-term solution.	Depending on the length of the interim solution, this could impact when the main solution is needed (or the amount of risk for non-coverage that would be accepted). However, we will assume that interim and long-term capability decisions can be made unhindered from one another.
A4	There will not be any regulatory changes which affect the business case or solution.	There is no indication that regulatory change affecting the requirements for vessels in the Cook Strait is planned. Any regulatory change could impact the requirements for EORC.

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Main risks

A risk is an uncertain event or circumstance that, if it occurs, has a negative effect on at least one programme objective. The most significant risks that might prevent, degrade, or delay the achievement of the investment objectives are identified and analysed below.

We have taken an 80:20 approach to risk identification, focusing on the 20 percent of risks, which are expected to contain 80 percent of the potential impact on the investment. Depending on the final option chosen, there will be additional option specific, and delivery

risks, which will also need to be monitored and managed. These additional risks are discussed later in this business case.

As each option considered in the economic case could affect the post-mitigation impact of these risks, only the pre-mitigation impact is shown.

Table 7: Criteria for Risk Analysis

Criteria	Likelihood	Impact
High (H)	Greater than 50% probability that the risk will occur over the course of the investment.	Significant negative impact on the achievement of the Investment Objectives.
Medium (M)	25-50% probability that the event will occur over the course of the investment.	Some negative impact on the achievement of the Investment Objectives.
Low (L)	0-25% probability that the event will occur over the course of the investment.	Limited impact on the achievement of the Investment Objectives.

Table 8: Initial risk analysis

	Main Risks	Comments & Risk Management Strategies (Mitigations)	Likelihood	Impact
1	**If** the market lacks the capability, capacity, or appetite to support the proposed solution, **then** the investment may not deliver the full EORC benefits.	Initial market sounding has confirmed interest from a range of parties. Further market engagement will take place through technical assessment and a Request for Information from the market to understand capacity, vessel availability, and other key elements.	L	H
2	**If** requirements are not well understood during the procurement, **then** a suboptimal solution may be procured.	This will be mitigated through defining technical and operational requirements early, market engagement, and input from subject matter experts. The preferred way forward will need to include the flexibility to pivot if requirements change during procurement.	L	H
3	**If** the operating environment changes during the lifespan of the solution, **then** the solution will not be fit for purpose.	This will be mitigated through engagement with stakeholders (e.g., cargo and ferry operators, international maritime organisations). We will also consider contractual arrangements that can respond to changes in the operating environment.	M	M
4	**If** the government cannot provide certainty over long-term EORC availability, **then** the willingness of maritime operators to use the Cook Strait may be negatively impacted.	This will be mitigated through early and proactive engagement with key stakeholders, and through clarity of the preferred way forward once agreed by decision makers.	L	H

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A Risk Management Strategy, and Risks and Issues Registers, will be developed and will be regularly and progressively updated as more detailed analysis is undertaken.

The remainder of the business case is organised as follows:

a) **Economic case:** Identifies the options available which meet the Investment Objectives and confirms the preferred way forward at this stage.

b) **Commercial case:** Identifies the procurement options and establishes the commercial structure.

c) **Financial case:** Assesses the whole of life cost of the preferred way forward, considers the affordability of the recommended way forward, and identifies the potential funding options.

d) **Management case:** Confirms the specific milestones, risks, and project and change management to successfully deliver the recommended way forward.

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Economic case

The purpose of the economic case is to identify the investment option that achieves the Crown's objectives and optimises value for New Zealand. Having determined the strategic context for the investment proposal and established a robust case for change, this part of the Business Case:

- Identifies critical success factors for successful delivery and options identification;
- Generates a wide range of long-list options;
- Undertakes an initial options assessment to identify the short-listed options; and
- Assesses the short-listed options to identify the preferred way forward at this stage.

Critical success factors

The following critical success factors (CSFs) were agreed by stakeholders at the facilitated options workshop held on 8 July 2024. Stakeholders agreed to use the Treasury's standard CSFs and the generic descriptions as shown in Table 9.

Table 9: Critical success factors

Key critical success factors	Broad description
Strategic fit and business needs	How well the option: • Meets the agreed investment objectives, related business needs and requirements; and • Fits with other strategies, programmes and projects.
Potential value for money	How well the option: • Optimises value for money (i.e., the optimal mix of potential benefits, costs and risks).
Supplier capacity and capability	How well the option: • Matches the ability of potential suppliers to deliver the required services (in particular the ability of the supplier to leverage existing capability / knowledge to rapidly deploy the services required); and • Is likely to result in a sustainable arrangement that optimises value for money over the term of the contract.
Potential affordability	How well the option: • Can be met from likely available funding; and • Matches other funding constraints.
Potential achievability	How well the option: • Is likely to be delivered given the organisation's ability to respond to the changes required; and • Matches the level of available skills required for successful delivery.

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Long-list options and initial options assessment

The purpose of this section is to identify and assess a wide range of programme options to achieve the investment objectives and service requirements, and which are within the scope set out in the Strategic Case.

A facilitated options workshop was held with key stakeholders on 8 July 2024. The options were organised into five 'dimensions of choice' (Table 10) to identify a long-list of in-scope options. Some options which obviously did not meet the investment objectives or were impossible to implement were not included in the options set (for example options which are not possible under international maritime law).

Table 10: Possible programme options classified by the five dimensions of choice

			Long-list of options				
Dimension	**Description**	**Status quo**	Do minimum	Do moderate			Do maximum
Scale and scope	In relation to the proposal, what levels of coverage are possible?	*Patchwork of capability nationally*	***1.1* Cook Strait focus** *Investment focuses only on the capability available in the Cook Strait*	**1.2 Cook Strait focus, with potential enhanced national coverage** *Investment focuses on the capability available in the Cook Strait, but provides benefit to wider regional / national capability uplift*	**1.3 Full National coverage** *Investment focuses on the EORC capability available throughout New Zealand*		**1.4 Pacific and Southern Ocean coverage** *Investment focuses on the EORC capability within New Zealand's Search and Rescue Region (NZSRR)*
Service solution	How can services be provided?	*Reliance on existing harbour tugboats, reducing vessels of opportunity and few vessels with self-rescue capabilities.*	**2.1 Regulatory change** *Change is provided only through changes to regulatory requirements for vessels*[1]	**2.2 Alternative / no tug solutions** *Change involves the Crown provision of alternative response capability*	**2.3 Stabilise and hold capability** *Change involves the capability to reach, stabilise and hold stricken vessels in a timely fashion*	**2.4 Stabilise, hold, and subsequently tow capability** *Change involves the capability to stabilise and hold and separate capability to tow stricken vessels*	**2.5 Single hold and tow capability** *Change involves the provision of a single capability to hold and tow-stricken vessels*
Service delivery	Who can deliver the services?	*Private provision only (no Crown role)*	**3.1 Private provision** *Ports and commercial operators provide the required capability without Crown involvement*	**3.2 Crown partnership with private and commercial operators** *Crown partners with ports / commercial operators to provide the capability required and reduce costs*			**3.3 Full Crown ownership and delivery** *Crown purchases capability and crews / operates it itself*
Funding	How can it be funded?	*Privately financed, with responses funded via vessel's insurance.*	**4.1 Partial cost recovery from local operators / users** *Initial costs funded by Crown, with fee / levy for operators / passengers / freight users transiting the Cook Strait and Crown funding for operations*	**4.2 Full cost recovery from operators / users (at a national level)** *National or local levy to fully cover the cost of the investment and operation (some upfront Crown capital likely required)*			**4.3 Fully Crown funded** *Crown funding for investment and operations. No cost recovery for base capability, only response costs through vessel insurance*

[1] Regulatory change is likely limited to: putting an onus on ports to provide their own EORC capability, or, putting an onus on frequent users of the Cook Strait to have capabilities on board that could support existing harbour tug operation (for example, on-board winches, tow kits or other equipment to connect vessels to harbour tugs).

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Assessing of the long-list of options

Table 11 sets out the rationale for the assessment of each of the long-listed options. Green represents the preferred option at this stage. Amber represents an option progressed for consideration in the shortlist. Red represents a discounted option due to failing to meet an Investment Objective or CSF. The detailed long-list assessment is included in Annex 1.

Table 11: Assessment summary of the long-list of options

		Long-list of options				
Dimension	**Do nothing**	Do minimum		Do moderate		Do maximum
Scale and scope	*Patchwork of capability nationally*	**1.1 Cook Strait focus** *Likely to meet objectives, but focusing only on the Cook Strait may limit the options available (i.e., capability housed elsewhere to service Cook Strait).*	**1.2 Cook Strait focus, with potential enhanced national coverage** *Fully meets objectives – preferred option at this stage.*	**1.3 Full National coverage** *Considered too ambitious at this stage. Likely to be unachievable due to complexity and funding constraints.*	**1.4 Pacific and Southern Ocean** *Considered too ambitious at this stage. Likely to be unachievable due to complexity and funding constraints.*	
Service solution	*Reliance on existing harbour tugboat capability and reducing vessels of opportunity*	**2.1 Regulatory change** *Could marginally improve New Zealand's ability to respond to maritime emergencies, but cannot support the ability to hold or tow vessels on its own. Regulatory changes may be considered outside this business case through BAU reform processes. Regulations alone are unlikely to provide assurance to the public.*	**2.2 Alternative / no tug solutions** *Potentially provides the capability to stabilise, but higher risk and only marginally increases current capability.*	**2.3 Stabilise and hold capability** *Material increase from the status quo, however only partially meets objectives as does not include the capability to tow stricken vessels.*	**2.4 Stabilise, hold, and subsequently tow capability** *Fully meets objectives and is feasible to deliver – preferred option at this stage.*	**2.5 Single hold and tow capability** *Would provide the capability required. However, capability would likely need to be based in Wellington (to respond in time) where there is limited commercial opportunity for a vessel of this size / capability when not undertaking a response. Lower VFM as a result.*
Service delivery	*Private provision only (no Crown role)*	**3.1 Private provision only (no Crown role)** *No incentive for the private sector to provide the capability required on its own. Very limited commercial use for capability outside of a response.*	**3.2 Crown partnership with private and commercial operators** *Fully meets objectives and is feasible to deliver based on previous market feedback – preferred option at this stage.*	**3.3 Full Crown ownership and delivery** *Would require significant funding and resources to acquire, crew and maintain vessels. Likely to be unaffordable.*		
Funding	*Privately financed, with responses funded via vessel's insurance*	**4.1 Partial cost recovery from local operators / users** *Likely to be a case for local operators / users to contribute towards costs of capability – preferred option at this stage. Would improve affordability.*	**4.2 Full cost recovery from operators / users (at national level)** *Would significantly improve affordability. However, likely to face implementation challenges in national levy for local capability.*	**4.3 Fully Crown funded** *Fully funding the capability and long- term costs is likely to be unaffordable if Crown funding is solely relied on.*		

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Discounted long-list options:

Scale and Scope – Full national coverage + Southern / Pacific Ocean capability

These options are the 'do maximum' for the scale and scope of the investment. Full national coverage would focus on the ability of all of New Zealand to access EORC. This would likely require hold or tow capabilities in multiple ports in the country to ensure effective coverage. While this would achieve the Investment Objectives (national coverage would include the Cook Strait), it would not achieve these in the most efficient / cost effective way given the cost to service other parts of the country where risks are lower than in the Cook Strait.

Incremental national coverage based on the areas of next highest risk could be considered after capability for the Cook Strait is implemented.

Because of New Zealand's responsibilities to Realm countries in the Pacific and strategic relationships in the Southern Ocean, an extension of the core service offerings could be for the EORC to service all of New Zealand's Search and Rescue Region (NZSRR). This option was discounted due to the significant cost and complexity involved in responding to and servicing the range of needs in the Pacific and Southern Ocean.

Service Solution – Regulatory change

Options for regulatory change are relatively limited. International conventions limit the levers available to control or charge for passage through the Cook Strait (freedom of navigation). Regulatory change is likely limited to putting an onus on ports to provide their own EORC capability, or, putting an onus on frequent users of the Cook Strait to have capabilities on board that could support existing harbour tug operation (e.g.,, on-board winches, tow kits or other equipment to connect vessels to harbour tugs).

Regulatory change on its own has been discounted as it would either place too big of a burden on ports / users to be financially viable (in the case of requiring their own EORC) or would not be effective in preventing the escalation of impact for vessels in distress (in the case of other regulatory equipment change).

The other options considered do not require regulatory change for them to be successful, and so regulatory change is not included as a bundle. Discounting regulatory change as part of this business case does not preclude the Crown from pursuing changes in future through Maritime NZ's or the Ministry of Transport's business as usual work programme.

Service Delivery – Private Provision only

The challenges posed by relying on the private provision of EORC services are discussed in the Strategic Case. There is currently no incentive for the private sector to provide EORC capability on its own. EORC vessels are not suitable for most inner harbour tug services so there are few activities EORC vessels could perform to offset costs (outside of marginal commercial activities in the offshore oil sector). In reality, private EORC vessels would sit idle for extended periods of time at significant cost to the private operator.

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Service Delivery – Full Crown Ownership and delivery

Full Crown ownership and delivery was discounted as there are currently no vehicles available for the Crown to operate EORC services itself, outside of the Navy. The Crown would need to establish, maintain and operate a new vehicle for operating services and the costs of doing so are likely to be prohibitive in the current economic environment.

Funding – Full Crown funding / reliance on existing baseline funding

Maritime NZ's funding sources are directly linked to specific outputs and cannot be redeployed to pay for any uplift in EORC services or their ongoing operation. The Maritime Levy review has just been completed and the fiscal environment remains tight. Reduced visits by international ships as a result of broader economic conditions has also reduced revenue for Maritime NZ. Any new funding would need to come from Budget 25 or levy increase (which would need to be consulted on and clearly tied to a specific service / output).

Fully supporting procurement and operating costs through Crown funding is not likely to be sustainable in the current environment. The majority of existing maritime safety services are paid for via fees and levies paid by maritime users. If the Crown was to fully fund EORC services, this would go against this well-established 'user pays' approach.

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Short-list options

On the basis of the long-list options assessment, the recommended short-list for further assessment in the Business Case (detailed in the following pages) is:

- **Option 1:** Do nothing / Status quo option (retained as a baseline comparator)
- **Option 2:** Local First-strike capability (do minimum option)
- **Option 3:** Local First-strike and regional Second-strike capabilities (the preferred way forward)
- **Option 4:** Local Single-strike capability (more ambitious option)

Table 12: overview of shortlist options

	Option 1 **Do nothing / status quo** Harbour tugs and vessels of opportunity are relied on to support and large vessels in distress in the Cook Strait	**Option 2** **Local first strike capability** A capability in Wellington and/or Picton is procured to stabilise and hold vessels in the Cook Strait. Towage provided by private vessels of opportunity. Crown + commercial partnership.	**Option 3** **Local first strike and regional second-strike capabilities** Option 2 plus the procurement of a capability based close to the Cook Strait to tow vessels to port once they've been held. Crown + commercial partnership.	**Option 4** **Local single strike capability** A single vessel based in the Cook Strait area because of the need for rapid first strike capability for EORC. Crown + commercial partnership.
What capability is enabled?				
Rapid stabilise and hold capability	✗	✓	✓	✓
Timely towage capability	✗	✗	✓	✓
Rapid towage capability	✗	✗	✗	✓
Ten Year Cost	s 9(2)(j) [redacted]			

[2] The costings for options 2 and 3 are informed by the market soundings and adjusted for the assumptions as set out in the Financial Case and Annex 3 below. The costings for option 4 are taken from 2023 market soundings. All costings are indicative and subject to change as part of the Budget 2025 bid and DBC process.

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Table 13: Overview of Option 1 – Do nothing / Status quo

Option 1	Rationale
Do nothing / Status quo	This option would see: • A continuation of the current patchwork of capability nationally; • Continued reliance on existing harbour tugboats; • Likely reduction in vessels of opportunity in New Zealand's waters; • The private provision of any towage capability only (i.e., no Crown role in the provision or facilitation of services); • The private financing of any capability; and • Response costs are recovered through existing measures.
Advantages	The main advantages are: • Low / no cost to the Crown.
Disadvantages	The main disadvantages are: • Relies on a likely decreasing number of suitable vessels of opportunity to provide towage capability. If no suitable vessels are in New Zealand at the time of an incident (which is increasingly likely) any capability would need to come from Australia which would lead to a significantly longer response time in an emergency, and therefore likely to be of limited or no effectiveness in an emergency situation; and • Relies on the private sector to pay for and provide the capability required. There is no incentive for ports or other parties to provide these services.
Costs	Nil
Conclusion	This option would see New Zealand continuing to rely on vessels of opportunity for EORC. This is decreasingly feasible as there is no certainty of continuing availability of these vessels within New Zealand, and therefore presents a very high risk that incidents escalate and there is an increased chance of loss of life, environmental, and / or economic damage.

Table 14: Overview of Option 2 – Local First-strike capability (Do minimum)

Option 2	Rationale
Local First-strike capability	This option would see: • Any investment focus on the availability of EORC in the Cook Strait only; • A locally based capability (e.g., Wellington, Picton, or Nelson) to stabilise and hold stricken vessels in distress in a timely manner (assumed to utilise larger harbour tugs or similar commercial vessels with the ability to operate in the Cook Strait and hold large stricken vessels); • A partnership between the Crown, and private or commercial operators to ensure the capability is in place; • Some Crown investment with partial cost recovery from local operators / passenger and / or freight users as appropriate; and • Response costs are recovered through existing measures.

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Option 2	Rationale
Advantages	The main advantages are: • Capability based as close to the Cook Strait as possible, decreasing the time taken to respond to vessels in distress; • Enhanced ability to respond to vessels in distress and prevent incidents from escalating (through the capability to stabilise and hold); • Reliance on larger harbour tugs (or equivalent) means there's an ability to use the vessels for traditional commercial activities when not responding to incidents (reducing potential costs to the Crown as vessels are able to provide a commercial return); • Greater ability to train and retain crew through regular time at sea during commercial operations; and • Low / no cost to Crown for providing Second-strike capability.
Disadvantages	The main disadvantages are: • It does not provide the capability to tow a stricken vessel. Towage capability would continue to be provided by vessels of opportunity – potentially requiring stricken vessels to be held for a week while support arrives from Australia. Holding for this long may not be feasible, due to limitations such as crewing requirements and fuel capacity on smaller vessels; • If vessels are required to respond for extended periods then this may prevent ports / commercial operators from undertaking business as usual activities (as their tugboats would be unavailable to assist ferries / cargo vessels in harbour); • Reliant on ports / commercial operators being able to source a vessel with the capability to stabilise and hold a stricken vessel and also undertake business as usual harbour tug activities; • Some form of incentive would likely be required for ports / commercial operators to purchase and operate a larger / more capable vessel than they require for their commercial operations. • The need for operators to undertake commercial activities with the vessels may constrain their ability to respond (i.e., may reduce response times, impact the ability to permanently house response equipment on the vessels etc).
Costs	s 9(2)(j) [redacted] (over 10 years)
Conclusion	This option would significantly improve the ability to prevent incidents in the Cook Strait from escalating as there would be a local capability to hold stricken vessels in place while full EORC assistance arrives. However, this option still relies on vessels of opportunity to tow stricken vessels which may not be available or could take considerable time to arrive. Option 2 is therefore only a partial solution to the current lack of EORC in the Cook Strait.

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Table 15: Overview of Option 3 – Local First-strike and regional Second-strike capabilities (preferred way forward)

Option 3	Rationale
Local First-strike and national Second-strike capabilities (preferred way forward at this stage)	This option would see: • Any investment being focused on improving EORC in the Cook Strait, while also considering capability based outside of the Cook Strait region; • A locally based capability (e.g., Wellington, Picton, or Nelson) to stabilise and hold stricken vessels in distress in a timely manner (assumed to utilise larger harbour tugs or similar commercial vessels with greater ability to operate in the Cook Strait and hold large vessels in distress); • A separate capability which can arrive at an incident within an appropriate timeframe, with the capability to tow stricken vessels in distress (assumed to be a full EORC anchor handling class vessel based within 12 hours sailing of the Cook Strait); • A partnership between the Crown and private and commercial operators to ensure the capability is in place; • Some Crown investment with partial cost recovery from local operators / passenger and / or freight users as appropriate; and • Response costs are recovered through existing measures.
Advantages	The main advantages are: • The capability to stabilise and hold is based as close to the Cook Strait as possible, decreasing the time taken to respond to vessels in distress; • The full suite of EORC capabilities being available when required removes the need to rely on vessels of opportunity to provide towage; • The ability to respond to vessels in distress, prevent incidents from escalating, and tow vessels to safety within a reasonable timeframe; • The ability to direct the full EORC vessel to other regions in New Zealand to support incident response if required; • The ability to use the vessels for commercial activities when not responding to incidents (i.e., port activities in Wellington / Picton and offshore oil / wind farm activities in Taranaki). This reduces potential costs to the Crown as vessels are able to provide a commercial return.
Disadvantages	The main disadvantages are: • Market engagement has indicated that the Second-strike capability would need to be based outside of the immediate Cook Strait region to allow it to undertake commercial activities when not responding to incidents. This means there will still be a delay in the ability to tow a vessel in distress in the Cook Strait and hence an implicit need for a First-strike capability. • Reliant on ports / commercial operators being able to source a vessel with the capability to stabilise and hold a stricken vessel and also undertake business as usual harbour tug or similar commercial activities (this puts an upper limit on the size of a First-strike vessel as above a certain size the vessel becomes unusable/uneconomic in a port or commercial setting; • Some form of incentive would likely be required for ports / commercial operators to purchase and operate a larger / more capable vessel than they require for their commercial operations. • Maritime NZ may need to act as the service integrator across multiple service providers / contracts if different operators provide First- and Second-strike capabilities. General commercial risk is increased due to having more suppliers required to deliver the capability.

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Option 3	Rationale
Costs	s 9(2)(j) (over 10 years)
Conclusion	This option would fully meet the Crown's objectives. It ensures that the capability to hold and tow a stricken vessel in the Cook Strait is permanently based in New Zealand and can respond to incidents throughout New Zealand if required.

Table 16: Overview of Option 4 – Local Single-strike capability (more ambitious option)

Option 4	Rationale
Local Single-strike capability	This option would see: • Any investment focus on the availability of EORC in the Cook Strait only; • A locally based capability (e.g., Wellington, Picton, or Nelson) which can stabilise, hold and / or tow a stricken vessel in distress (assumed to be a single vessel capable of performing all EORC functions); • A partnership between the Crown and private and commercial operators to ensure the capability is in place; • Any costs for procuring and operating the capability would be fully cost recovered from operators / freight and / or passenger users through a nationally imposed levy; and • Response costs are recovered through existing measures.
Advantages	The main advantages are: • The capability to stabilise, hold, and tow is based as close to the Cook Strait as possible, decreasing the time taken to respond to vessels in distress; • The full suite of EORC capabilities being available when required removes the need to rely on vessels of opportunity to provide towage capability; • The ability to respond to vessels in distress, prevent incidents from escalating, and tow vessels to safety within a reasonable timeframe; • The ability to direct the Cook Strait based EORC vessel to other regions in New Zealand to support incident response if required; and • A dedicated EORC capability which is not required to deliver commercial activities (and be diverted from these activities in the event of an incident). A dedicated vessel means the Crown can specify the full capability requirements without making compromises to account for commercial operations.

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Option 4	Rationale
Disadvantages	The main disadvantages are: • A fully EORC enabled vessel is not suitable for inner harbour tug operations. There are no commercial roles available in Wellington or Picton for full EORC enabled vessel; • Any operations would need to be fully funded through fees / levies rather than subsidised / fully funded from commercial operations as there is no commercial demand for vessels of the size capability required in Wellington (so no opportunity to generate revenue outside of a response); • The vessel would be unutilised until an incident occurs. Significant costs would be incurred in the interim and there may be a public perception risk that the Crown is paying for a vessel not serving any useful function outside of infrequent emergency response. There is a risk of vessels being used for non-core response duties (e.g., other public good activities to 'keep them busy') and not being available for responses; • There are likely to be challenges keeping crew engaged and training current due to a lack of non-response activities which can be undertaken; • Vessel will be out of action for a prolonged period for maintenance as New Zealand does not have the capability to service vessels of this size. Vessels would need to transit to Australia (or beyond) for an extended period; and • Vessels will require dedicated berthing, e.g., in Picton or Wellington. This is likely to be expensive and difficult to come by. Berthing space will become unavailable for more productive activities – there may be a material opportunity cost involved. Vessels may require the construction of a dedicated berth, which may take some time in terms of consenting and construction processes, translating to significant delay in implementation.
Costs	s 9(2)(j) (over 10 years)
Conclusion	This option would provide a full EORC capability in a single vessel based in close proximity to the Cook Strait. However, that vessel would not be suitable for commercial inner harbour activities and is likely to be expensive and significantly underutilised.

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Indicative benefit-cost analysis

Short-list options assessment

Table 17 outlines the comparative costs, risks and benefits of the short-listed options. This analysis compares how one short-listed option performs against another. As the assessment is comparative, two options may have similar benefits or risks, but one could be rated medium instead of high as it is comparatively worse at meeting the intended benefit or mitigating the risk than another option.

The analysis is broken down into three areas;

- **Costs**,
- **Benefits and Investment objectives**, assessed as the options suitability to achieve the investment objectives, Critical Success Factors, and benefits identified in the Strategic Case; and
- **Implementation risks**, assessed as the options suitability to mitigate specific risks which could occur before, after, or during implementation.

After this analysis, we have ranked the options 1-4 based on how they are assessed against these areas. A proposed way forward is discussed in the next section.

Table 17: Assessment of the short-list options.

	Option 1: Status Quo	Option 2: Local First-strike capability (Do minimum)	Option 3: Local First-strike and regional Second-strike capabilities	Option 4: Local Single-strike capability (more ambitious option)
Ranking	4	2	1	3
Costs (FY25-35)				
Cost profile (10 years)	No additional cost	Lower Cost (est. s 9(2)(i))	Moderate Cost (est s 9(2)(i))	Highest Cost (est. s 9(2)(i)
IOs/CSFs				
Investment objectives	Low	Medium	High	High
Critical Success Factors	Low	Medium	High	Medium
Benefits				
B1: The safety of maritime users is enhanced in the event of a significant maritime incident in the Cook Strait.	Low No improvement in Cook Strait EORC availability.	Medium Improved ability to stabilise and hold stricken vessels in the Cook Strait and reduce risk to users	High Material improvement in the permanent availability of ability to stabilise and tow stricken vessels to safety	High Material improvement in the permanent availability of ability to stabilise and tow stricken vessels to safety
B2: The environment is protected by rapid response to prevent accidents (such as vessels running ashore) or minimise the damage resulting from incidents.	Low No improvement in Cook Strait EORC availability. Risk of excess environmental damage in an emergency remains high	Medium Improved ability to rapidly reach, stabilise and hold stricken vessels in the Cook Strait and reduce the risk of excess environmental damage in an emergency. No guarantee of ability to tow vessels to safety	High Material improvement in the permanent availability of ability to stabilise and tow stricken vessels to safety and reduce the risk of excess environmental damage in an emergency	High Material improvement in the permanent availability of ability to stabilise and tow stricken vessels to safety and reduce the risk of excess environmental damage in an emergency
B3: Increased (economic) resilience in the Cook Strait.	Low No improvement in Cook Strait EORC availability	Medium Reduced likelihood of prolonged disruption to Cook Strait travel and associated economic damage	High Significantly reduced likelihood of prolonged disruption to Cook Strait travel and associated economic damage	High Significantly reduced likelihood of prolonged disruption to the Cook Strait travel and associated economic damage
B4: The availability of EORC reduces the risk that a significant maritime incident in the Cook Strait causes damage to New Zealand's international reputation.	Low No improvement in Cook Strait EORC availability. High risk that New Zealand's international reputation is damaged if it is unable to prevent an incident from escalating and causing damage / loss of life	Medium Capability to hold stricken vessels is likely to reduce reputational damage. However, lack of towage capability may mean that stricken vessels are at risk for a prolonged period with high visibility	High Capability to rapidly reach and hold a stricken vessel combined with towage capability based within a reasonable distance should reduce risk of reputational damage from a lack of EORC in an emergency	High Full EORC vessels would be based within close proximity to the Cook Strait, allowing for a rapid full-scale response.

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NOT GOVERNMENT POLICY

	Option 1: Status Quo			**Option 2:** Local First-strike capability (Do minimum)			**Option 3:** Local First-strike and regional Second-strike capabilities			**Option 4:** Local Single-strike capability (more ambitious option)		
Implementation Risks	**Likelihood**	**Impact**	**Description**	**Likelihood**	**Impact**	**Description**	**Likelihood**	**Impact**	**Description**	**Likelihood**	**Impact**	**Description**
No vessels of opportunity remain in / return to NZ market	H	H	If no vessels of opportunity return to NZ waters, there will be no EOR-capable vessels in NZ – impacting the ability to mitigate risks from a maritime incident.	H	M	Medium impact as ability to tow will need to be sourced overseas.	H	L	Low impact as vessels will remain in New Zealand.	H	L	Low impact as the capability will be permanently available in New Zealand
An incident requires a rapid EORC response in the Cook Strait	M	H	Reliant on vessels of opportunity – these may or may not be present in NZ waters and will most likely be based in Taranaki (too late to respond rapidly).	M	M	Initial hold would be available that could stabilise a vessel in distress. To tow the vehicle back into port would require a vessel of opportunity in NZ waters – likely to take over a week.	M	L	Low impact as capability will be in place to hold in the Cook Strait and tow within a reasonable timeframe.	M	L	Low impact as capability will be in place to hold in the Cook Strait and tow within a reasonable timeframe. Less impact than Options 2+3 as vessel will be able to be immediately towed after hold.
No market interest to partner	N/A	N/A	N/A – no partner required.	L	H	Low likelihood as multiple market participants have indicated willingness to partner, due to interoperability of First-strike capability with other Cook Strait activities.	M	H	Medium likelihood as multiple market participants have indicated willingness to partner, but slightly more risk than Option 2 as use case is more limited for commercial activities. Likely to mean multiple partners will be needed due to multiple capabilities being procured, increasing likelihood.	H	H	Highly unlikely to be any market interest in providing a local EORC vessel. Market sounding indicated no commercial use case for a vessel of this type in the Cook Strait.
No suitable vessels are available for purchase in a reasonable timeframe	N/A	N/A	N/A – no need to go to market.	L	H	Less likely to occur given suitable vessels are expected to be reasonably common internationally.	M	H	First-strike capability expected to be similar to vessels used commonly internationally. Second-strike capability may be more limited.	M	H	Ability to source a Single-strike vessel in a short timeframe may be challenging as these vessels are less common than traditional harbour tugs.
Composition of vessels transiting Cook Strait changes significantly	L	H	High impact as no ability to ensure private vessels are still EOR capable.	L	M	This risk cannot be avoided across procured solutions but can be mitigated partially through scoping of vessel requirements (e.g., procure a vessel that retains some flexibility to adapt if required or is suitable for larger than required vessels). Likely to be more of an issue for First-strike capability which may not be able to hold the largest of vessels.	L	M	This risk cannot be avoided across procured solutions but can be mitigated partially through scoping of vessel requirements (e.g., procure a vessel that retains some flexibility to adapt if required or is suitable for larger than required vessels). Likely to be more of an issue for First-strike capability which may not be able to hold the largest of vessels.	L	L	This risk cannot be avoided across procured solutions but is likely to be less of an issue as the Single-strike capability would be able to hold a very large stricken vessel even if it could no longer tow it.
Ranking	**4**			**2**			**1**			**3**		

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Summary of the short-list table

Costs

As the status quo option, Option 1 is not expected to incur any costs to the Crown outside of potential costs responding to an incident.

Options 2, 3, and 4 all see costs commensurate with capability uplift. However, Option 4 is likely to be more expensive than Options 2 and 3 as it will not be able to undertake commercial operations to offset vessel and crew costs. The full costs would need to be recouped through levies or Crown funding which may not be feasible to achieve. The ability to undertake commercial activities under Options 2 and 3 means that these options are likely to be more affordable and lead to a more sustainable arrangement long-term.

Benefits and Investment objectives

As expected, and outlined in the Strategic Case, Option 1 (as the status quo option) does not address the benefits or investment objectives being sought for EORC in the Cook Strait.

Option 2 generally scored lower than both options 3 and 4 as it would not provide the ability to tow a stricken vessel. Any towage capability would be unlikely to be available in a 'reasonable timeframe', unless commercial vessels of opportunity return to New Zealand (which is looking increasingly unlikely).

Option 3 delivers similar benefits to Option 4 as it ensures that full EORC is permanently available in New Zealand. The increased travel time for towage capability to reach the Cook Strait is more than offset against the lower cost as the vessels would be able to undertake commercial activities when not responding to an incident. This also increases the chance of finding a commercial operator to partner with. Option 3 is likely to present better value for money to achieve similar benefits overall.

Risks

Five key risks were identified for the purposes of the comparative risk assessment. These risks represent events which could occur before, during or after the investment. Each option has been assessed based on how it is impacted by, or can help to mitigate, each risk.

Options 2 and 3 perform similarly in mitigating these key risks. Option 2 has lower risk related to procurement but is worse at mitigating risks related to incident response. Option 3 is stronger on response risks but introduces more procurement risk due to the commercial use case for Second-strike capability being worse in New Zealand, resulting in less market appetite than just First-strike alone.

Option 4 mitigates risks related to response to a similar degree as Option 3 but introduces significant risk in procurement. Market soundings have indicated it is highly unlikely that there will be interest for a Single-strike capability based in the immediate Cook Strait area because there is no commercial use case in New Zealand at present. Therefore, finding a commercial partner is likely to be very difficult.

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The preferred way forward at this stage

On the basis of the above initial assessment, the preferred way forward is Option 3: Local First-strike and regional Second-strike capabilities. Option 3 provides the best balance of costs, benefits and risks across the short-listed options.

This option would see the Crown partnering with the private sector to ensure the delivery of two separate capabilities:

- A First-strike capability based in the immediate Cook Strait area to hold vessels in distress; and
- A Second-strike capability based within a reasonable distance to the Cook Strait (e.g.: Taranaki, Nelson, or Napier) to tow Cook Strait vessels in distress if required after holding.

Option 2: Local First-strike capability could also be a viable option as it mitigates the most impactful risks around vessels grounding. However, it has comparatively less benefit than Option 3. This is due to uncertainty around having vessels of opportunity in New Zealand capable of providing a Second-strike capability. While providing similar or greater benefits to Option 3, Option 4 was discounted as it is unlikely to be feasible given costs and the inability to undertake commercial operations when not responding an emergency (i.e., the vast majority of the time).

The shortlisting process built on the market engagement exercise from 2023, and technical advice received from an independent consultancy as part of that process. This process included engagement with key stakeholders including industry and local government. External stakeholders indicated that both the Single-strike and two strike models were technically feasible, albeit with the Single-strike option likely to cost considerably more and unlikely to be suitable for other commercial activities in the Cook Strait. The information and analysis provided by the market engagement process and technical consultancy was then further tested and refined into the options and shortlisted by workshopping with Maritime NZ and Ministry of Transport staff with expertise in a range of areas, including policy, procurement, response, and naval architecture.

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Commercial Case

This part of the business case provides an initial assessment of the commercial attractiveness of the preferred option. It describes the anticipated requirements, market assessment undertaken to date, procurement plan, and key contractual arrangements.

Service requirements and the preferred way forward

The Economic Case identified *Option 3: Local First-strike and regional Second-strike capabilities* as the preferred option at this stage. The exact service requirements for this capability (i.e., the vessel tonnage, speed requirements, response times etc.) will be confirmed ahead of a formal Request for Information (RFI) to enable the market to provide the most fulsome response. At this stage, Maritime NZ anticipates procuring:

- **First-strike capability**: An operator that can provide a First-strike capability located in Wellington and / or Picton capable of stabilising and holding a stricken vessel in the Cook Strait in most sea conditions.
- **Second-strike capability**: An operator that can provide the capability to tow a stricken vessel to safety in the event on an emergency. This capability would provide enhanced national coverage. However, it will need to be capable of supporting the procured Cook Strait First-strike capability.

Market feedback

Maritime NZ, supported by KPMG and maritime consultants Navigatus, undertook an initial EORC market assessment in late 2023. Maritime NZ engaged with a range of commercial entities in the New Zealand maritime industry (including Ports and operators) to determine the viability of a contracted-model for delivery of EORC services. This engagement focused primarily on the Cook Strait and Taranaki regions and specifically tested the viability of the preferred First / Second-strike model.

- **High level of interest, with some caveats**: In general, participants showed a high degree of interest in being involved in the EORC delivery. There were some potential challenges around issues such as, the carbon footprint (due to endurance requirements electric-powered tugs are not suitable for EORC work) and compatibility with other tasks and duties the vessel(s) may be required to undertake. However, these challenges do not appear to be insurmountable.
- **Preference for separate First- and Second- strike capability**: Participants were generally only interested in providing a capability which aligns with their current operational requirements. Ports were generally only interested in providing a First-strike capability (if that capability did not impact general port operations). Other operators which already operate larger vessels were primarily interested in the ability to provide a Second-strike capability based outside of the Cook Strait, likely due to challenges generating a commercial return in the region.
- **Location challenges**: A Single-strike vessel situated in the Cook Strait (Option 4) could be possible. However, this would require the right contract model and a government contribution. It would also be more challenging to keep crew training current. Overall, there was more interest in operators providing vessels within a two-strike model (Option 3) with capability based where it is best able to undertake non-EORC activities. This would likely mean there would be separate commercial entities contracted to provide EORC – one / two in the Cook Strait with a First-strike vessel(s), and one in a second location with a Second-strike vessel.
- **Subsequent unsolicited approaches**: Since the announcement of the funding for business case development in Budget 24, Maritime NZ has been approached by potential providers several times with proposals for EORC solutions. These have not been

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engaged with but are indicative of the continued market interest. At this stage, we expect there to be four to five parties which could bid as part of an RFP for a Second-strike capability.

Overall, there was enough interest expressed to indicate that the market would be able to provide for a contracted arrangement for EORC services in the Cook Strait with one or more commercial operators, using the two-strike model in Option three.

Indicative commercial structure and risk transfer

Maritime NZ intends to leave the commercial structure relatively open to enable respondents to provide a wide range of solutions through the RFP process. The intention is to procure a capability / service, similar to existing service agreements with third parties, rather than see the Crown take on an ownership stake in a vessel or be responsible for day-to-day operational decisions (i.e., negotiating port access or specifying where vessels must be located – outside of maintaining agreed levels of coverage).

Maritime NZ has developed a preferred set of key commercial features at this stage (Table 18).

Table 18: Key commercial features

Attribute	Comment
Overview	Maritime NZ invites proposals to provide First- and Second-strike capabilities consistent with the service requirements. Maritime NZ enters into a 10-year service agreement with the selected operator(s) to provide the services. The operator(s) retains ownership of the vessel(s) throughout the agreement(s). The operator(s) is responsible for operating, crewing, maintaining, and ensuring availability of the vessels. Any required service enhancements (i.e., the installation of specialist EORC equipment) will be installed and maintained by the operator(s).
Role of Maritime NZ	Maritime NZ is responsible for: a. Procurement and contracting with the operator(s). b. Ongoing funding and payment under the contract. c. Ongoing management of the contract, including ensuring service requirements are met.
Vessel ownership	The operator is responsible for providing the agreed capability. The Crown will not have an ownership stake in the capability / vessel. In the event the operator sells or leases a new vessel to deliver the services, the operator will be expected to provide a vessel of similar or greater capability.
Vessel berthing	Operators are expected to negotiate berthing space directly with ports. A portion of these berthing costs may be included in the Crown's payment depending on the exact commercial arrangement entered.
Vessel management and maintenance	The operator will manage the vessels and provide all ongoing maintenance.

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Capability availability	The operator will be responsible for ensuring that the procured capability is available as agreed (i.e., for ensuring that services can continue to be provided while vessels are in dry dock for required maintenance etc). This includes being available for joint training exercises as required.
Crewing and training	The operator will be responsible for ensuring vessels are appropriately crewed and that the crew's training remains current.
Duration	Expected to be for 10 years (with renewal options).
Service availability	The Crown's preference is for EORC to be available 24/7.
Quantum and phasing of costs	No upfront capital is required. Maritime NZ is responsible for an agreed Operating Expenditure amount for the duration of the agreement once the vessels are operational.
Inflation	Operating payments will be inflated in accordance with an agreed index.

Table 19 sets out the risk allocation of the preferred way forward. The risk allocation generally reflects an approach to optimising risk allocation where risk is allocated to the party best able to control or manage the risk.

Given that the preferred way forward is an operator-led solution, all risks associated with the financing, performance, and ownership of the vessels remains with the developer. Maritime NZ would however retain the risk associated with any changes to requirements or Government policy. The risk that the capability is required following the end of the initial contractual term can be mitigated, for example, by considering contractual renewal options.

Table 19: Risk allocation table

Risk	Operator	Maritime NZ
Financing risk	✓	
Availability and performance risk	✓	
Residual value risks	✓	
Changes to regulation		✓
Changes to Government policy		✓

Procurement Rules

All commercial activity will be in accordance with Maritime NZ's procurement policy. This includes ensuring that procurement, contract, and supplier management practices are all undertaken in accordance with good practice, and with the New Zealand Government's expectations of public sector sourcing, purchasing, contract and supplier management.

The procurement team must demonstrate ethics and integrity in this procurement. This means:

- Acting fairly, impartially, and with integrity;
- Being accountable and transparent;
- Being trustworthy and acting lawfully;

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- Managing conflicts of interest; and
- Protecting bidders' commercially sensitive and confidential information.

An advisor from an external agency (likely to be the Ministry of Transport) will act as the probity officer for the procurement. They will be responsible for ensuring that the procurement is undertaken in line with the principles set out above.

The Government Procurement Rules state that all procurements over NZD $100,000 must be openly tendered unless there is an existing agency agreement, all-of-government or syndicated agreement, or a valid exemption. Maritime NZ has engaged with the Ministry of Business, Innovation and Employment's Government Procurement team and will continue to do so as the programme progresses. It is possible that professional services or other support might be required to fully deliver the EORC solution, and these components may not be openly tendered (depending on the specific circumstances).

Procurement Plan and timetable

Maritime NZ anticipates running three separate procurements for this programme:

1 **Interim Capability**: Agreement will be sought from Cabinet (outside of this IBC) to enter an interim agreement with an operator to ensure an interim EORC remains available for up to two years. This will likely be done under urgency and will seek an exemption under the Government Procurement Rule 12 3(m)(iii)[3].

2 **First-strike Capability**: A two-stage procurement for a First-strike capability (RFI followed by an RFP) to be completed as soon as possible following confirmation of funding.

3 **Second-strike Capability**: A two-stage procurement for a Second-strike capability (RFI followed by an RFP) to be completed in parallel with the First-strike procurement and in advance of a levy review. The Interim EORC agreement will end once the Second-strike Capability procurement is completed and a capability in place.

First- and Second-strike Capability procurements

Subject to approval, Maritime NZ proposes to approach the market with a two-stage procurement process (Table 20). A detailed procurement plan will be developed as part of the DBC if Cabinet agrees to proceed with the programme.

Release of procurement documentation

Potential service providers are unlikely to be on any existing All-of-Government panels or registered for GETS notifications. However, the opportunity is already well known in the market, and we do not anticipate there being material challenges making release of the RFI and RFP known to the market. Maritime NZ will likely supplement release of the RFI / RFP on GETS with notification in appropriate trade publications and / or additional advertising as required.

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[3] https://www.procurement.govt.nz/principles-charter-and-rules/government-procurement-rules/getting-started/opt-out-procurements/ Military and essential security interests: Measures necessary for the protection of essential security interests, procurement indispensable for national security or for national defence, the maintenance or restoration of international peace or security, or to protect human health, including a measure to protect: public morals, order or safety; human, animal or plant life or health.

Timeframes

The contracts to provide First-strike and Second-strike Capability would be procured as soon as practicably possible to reduce the risk to life. Procurement is expected to begin in May / June 2025 following confirmation of Budget 25 funding. Depending on the specific contracts there may be a delay in the vessels entering service based on factors such as how quickly the commercial providers can procure, crew, and train appropriate vessels.

Table 20: Procurement process

Process step	Timing	Rationale
Request for Information • Respondents invited to provide information in response to an initial set of service specifications to help shape the subsequent RFP.	Duration: 4 weeks for response and 2 weeks for response review	To confirm level of interest from the market. To address any material concerns and adjust the subsequent RFP documentation and approach. Allows suppliers not familiar with NZ requirements to come up to speed ahead of the RFP.
Request for Proposal • Respondents invited to submit proposal including price and acceptance of terms.	Duration 8 weeks for response and 2 weeks for evaluation	To conduct detailed assessment of proposal, price, and acceptance of terms, including due diligence. To identified preferred bidder with whom to enter into negotiation.
Negotiation • Final negotiations and execution of contract.	Duration 6 weeks	To execute a contract.

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Evaluation process

The specific evaluation criteria and weightings will be determined during the development of the tender documentation but will include assessment of:

- Experience to deliver the outcomes,
- Existing capability / knowledge required to rapidly deliver the services required,
- Track record,
- Broader outcomes,
- Price,
- Quality,
- Contractual derogations,
- Ability to undertake commercial operations and reduce costs to the Crown.

Proposals from potential providers will be assessed by an Evaluation Panel consisting of staff with appropriate expertise from Maritime NZ and the Ministry of Transport. Independent technical expertise will also be sought for the consideration process, to ensure that any technical aspects of the proposals are fit-for-purpose for an effective EORC. For further details on the governance of the tender process refer to the Management Case.

It may be necessary to engage professional services, technical or legal experts, or other third parties to manage any tender, procurement, and delivery to service component of the programme.

Conflicts of interest

All programme members involved in the EORC will be required to complete a conflict of interest and confidentiality declaration. Any declarations made will have a management plan attached, recorded on a probity register.

Procurement principles

To ensure procurement milestones are met and the timeline is achievable, we have set out general principles to guide the overall procurement. These are:

- Clarity of technical requirements before engaging formally with the market,
- Early RFI to help shape the commercial arrangement prior to committing to an RFP,
- Simple and standard contractual structures (based on similar service contract arrangements),
- Clear delegated authorities (Table 21),
- Clear and efficient selection process, and
- Probity as an integrated part of project team.

Treatment of unsolicited proposals

There has already been some interest from several commercial providers in providing EORC, due to both the market engagement exercise and the public announcements about the development of the business case following Budget 24. It is therefore possible that unsolicited proposals will be received before the tender process commences. If this occurs (for either the First- or Second-strike procurement), the interested parties will be referred back to the tender process.

Delegated authorities

Table 21 sets out the expected delegations for approval.

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Table 21: Proposed Delegated Authorities

Approval Required	Description	Delegated Authority for Final Approval
Indicative business case	Approval of business case, commercial principles, delegations, and agreement to proceed with Budget 25 bid.	Cabinet
Detailed Business Case	Approval of business case, commercial approach, and financial envelope as part of Budget 25.	Cabinet
RFI release	Release of technical requirements to the market and request for information and advice from respondents.	Director of Maritime New Zealand
RFP documentation	Approval of content of RFP documents.	Director of Maritime New Zealand
Selection of preferred supplier	Selection of the preferred operator following RFP assessment (carried out by project team) and agreement to negotiating mandate.	Director of Maritime New Zealand
Contract close	Agreement to all key contractual terms and conditions and signing the contract.	Joint Ministers (Finance, Transport)
Significant variations	Any proposed settlement in excess of the funding contingency agreed in Budget 25 or a significant variance from the IBC analysis.	Cabinet

Contractual arrangements

Given the nature of the agreement it is likely that a bespoke contract will have to be developed for EORC services. There is unlikely to be an appropriate template contract immediately available. However, where possible Maritime NZ will look to include elements from similar service contracts with providers.

Maritime NZ will also engage with the Australian Maritime Safety Authority to understand their contractual arrangements for EORC services and use this knowledge to inform the development of a contract(s) for the EORC service.

Separate contracts will likely be required for the First- and Second-strike components. These would be broadly similar but would obviously differ on specific costs, technical requirements, and other related matters.

The market engagement exercises have indicated that contract lengths are likely to be 10 years or more, as the provision of these services may require significant capital outlay and operators will want to ensure they can recover those costs to make the agreement commercially viable.

It is expected that Maritime NZ will be able to absorb the costs from the ongoing management of the EORC contract(s) within existing baselines.

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Payment Mechanisms and Performance Regime

Given the critical nature of the service being provided but the infrequency with which it will have to be fully utilised, it will be critical to ensure strong measurable outputs for readiness capability. This will be necessary to ensure that there is no degradation over time.

The payment mechanism and performance regime together ensure appropriate incentives are placed on the operator to deliver the required outputs for the Government and provide Maritime NZ with remedies in the event that the operator does not meet its obligations.

The payment mechanism and performance regime will both follow approaches adopted for other similar programmes where services are delivered on behalf of the Crown.

The principles of the payment mechanism are detailed below:

- Availability of services;
- Availability of crew;
- Crew training requirements; and
- Vessel training / capability requirements.

The most likely approach to payment for EORC services would be a smooth spread of even payments over the 10 years which would be expected to cover the suppliers cost of capital, return on capital, and service delivery costs. This would be the simplest approach and would provide certainty for accounting purposes.

Accountancy treatment

As this is just a contracted agreement for an EORC service and there is no capital investment or asset purchase, there is no need to account for assets on a balance sheet. The cost of the contracted service will be paid from Maritime NZ's accounts.

Personnel implications

There are no personnel implications for this programme. It is expected that ongoing management of the EORC contract arrangements and any assurance activities or other matters could be covered by existing roles within Maritime NZ without substantive change to duties.

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Financial Case

The purpose of the Financial Case is to set out the financial implications of the preferred option as set out in the Economic Case. Specifically, the Financial Case:

- Defines the anticipated funding sources for the First- and Second-strike Capability;
- Sets out the methodology and key assumptions for calculating the financial impact to the Crown;
- Estimates the anticipated cashflows for the investment proposal; and
- Provides an initial view on the affordability of the preferred way forward.

Funding sources

The First- and Second-strike capabilities are expected to require different sources of funding due to the different nature of the services and benefits provided:

- **First-strike Capability – Crown funded:** The First-strike capability only provides a direct benefit / public good to the Cook Strait region and those vessels that transit the area. It is not currently possible to apply a maritime levy to only the Cook Strait[4].

  A targeted levy on Cook Strait users to pay for the First-strike capability could be possible but may be difficult to develop and implement. Not all Cook Strait users could be required to pay as international ships exercising freedom of passage through Cook Strait, for instance carrying cargo between Australia and South America could not be charged due to international conventions to which New Zealand is a party. The possibility of a Cook Strait-focused levy or fee has not been discussed with key stakeholders including the ports and ferry service providers either and is likely to be met with resistance by consumers if it leads to higher fares.

  The above limitations mean that Crown funding will be required to support any First-strike Capability procured. Depending on the exact arrangement entered into, the Crown may be required to pay for all or just a portion of the costs of delivering the services (i.e., where vessels are able to generate a commercial return when not providing EORC coverage).

- **Second-strike Capability – Levy funded:** The Second-strike Capability provides a national benefit as its services would be available to all maritime users. As a national benefit, it is anticipated that any funding for a Second-strike capability (following the interim arrangement) would be paid for by maritime levy payers. The maritime levy was reviewed in 2023/24 and is not due to be reviewed again until 2026/27. At this time, the levy would be adjusted to include the costs associated with the Second-strike Capability.

Financial summary

Based on current estimates, the anticipated cash flows for the investment proposal over its intended life span are as set out below. The First- and Second-strike costs have been separated due to their different funding sources. There may be other funding options available to Maritime NZ which will be further developed as part of the Budget process and discussed in more detail with the Treasury. These alternatives could include use of a Crown grant in place of capital payments and financing versus operating lease arrangements.

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[4] Current maritime fees and levies would not be appropriate to fund a service which is solely Cook Strait focused, as the majority of maritime fee and levy payers do not transit the Cook Strait and would therefore gain no benefit from it.

All redactions on this page are under s9(2)(j)

Table 22: Financial summary- First-strike capability (CapEx option)

Funding requirement – First-strike capability (CapEx option)												
NZ$'000	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	Total
Capital expenditure	[redacted]	-	-	-	-	-	-	-	-	-	-	[redacted]
Operating expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Depreciation and capital charge	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total funding requirement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Maritime NZ could make an upfront capital payment for the uplift in vessel size (i.e., to reflect the fact that an operator is purchasing a larger vessel than it would otherwise need to deliver its operations). Under this model, Maritime NZ would take an effective ownership stake in the service, limiting future Operating Costs to those associated with delivery of the service. Maritime NZ would incur Capital Charge and Depreciation for its share of the vessel.

This option may not be suitable as:

- Maritime NZ is the regulator. It may not be appropriate for Maritime NZ to have an ownership stake in a vessel responsible for incident response.
- Managing a Crown owned asset, even shared with or leased to an operator, would greatly increase the risk of the EORC programme.
- It changes the commercial model from purchasing a service to having a direct stake in the capability (and associated risk and ownership requirements).
- It may limit the ability of the operator to change vessels / manage availability.

It may be possible to structure this arrangement as a Crown grant to mitigate some of these risks.

Table 23: Financial summary- First-strike capability (OpEx option)

Funding requirement – First-strike capability (OpEx option)												
NZ$'000	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	Total
Operating expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Operating lease costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total funding requirement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Maritime NZ could enter an arrangement where it purchases the service without any capital contribution to the service provider. This option spreads the costs of the service over the life of the agreement. Any capital expenditure made by the supplier, including their cost of capital, would be factored into the service price and therefore the Operating Expenses for Maritime NZ. This results in higher Operating Expenditure, but no Capital costs. Subject to the length and nature of the contractual arrangements, Maritime NZ would not incur any Capital Charge or Depreciation costs under this model.

Table 24: Financial summary- Second-strike capability (OpEx)

Funding requirement – Second-strike capability												
NZ$'000	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	Total
Procurement costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Operating expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Lifecycle costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total funding requirement	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

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Similar to the First-strike OpEx option, Maritime NZ would enter a service arrangement with a supplier. Maritime NZ would not make any Capital contribution towards the vessel or service. Levy funding would be used to make OpEx payments.

Financial assumptions

A full list of financial assumptions is included as Annex 3. The following key assumptions have been made in determining these initial estimates:

1. Costs will be similar to those identified in the 2023 market engagement exercise.
2. A 10% contingency has been applied to First-strike Operating Expenditure estimates.
3. Contracts would be in place until 2035.
4. Costs are only for the availability of an EORC and do not include actual incurred costs if an emergency response is required. Costs incurred in a response will be recovered from the owner and/or operator of the stricken vessel, or their insurer.
5. All costs are estimates only and subject to change based on actual market response to the tender process and further technical due diligence.

Overall affordability

The anticipated whole of life cost of the First-strike capability is s 9(2)(j) over the anticipated life of the agreement from 2025/26 to 2035/36[5]. This is the estimated amount anticipated should the Crown be required to cover the full costs of the service. This is likely to be affordable due to the relatively small size of the investment and the potential to further reduce costs through the operator's use of vessels for other commercial activities.

The proposed whole of life cost of the Second-strike capability is s 9(2)(j) over the anticipated life of the agreement from 2025/26 to 2035/36. There is no capacity to pay for the Second-strike component from Maritime NZ levies at this stage. Given Maritime NZ's levies were recently reviewed and adjusted on 1 July 2024, the Crown would need to bridge the gap until the next levy review is completed in 2026/27 and levy levels are adjusted in 2027. The Crown funding portion is expected to cost s 9(2)(j) funded through levies.

These figures are indicative at this stage. A more detailed assessment of overall affordability will be completed through development of the Budget 25 bid and completion of technical vessel assessments.

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[5] Note the 10 year contract is expected to start midway through FY25/26 and therefore the 10 year contract is spread over 11 financial years rather than 10 for modelling purposes.

Management Case

The purpose of the management case is to describe the arrangements that will be put in place for the successful delivery of the programme, both to ensure successful delivery and to manage programme risk.

Programme management strategy and framework

Maritime NZ employs a robust programme delivery model, which offers flexibility and collaboration, allowing quick adaptation to change and continuous value to be delivered to stakeholders. Maritime NZ's structure includes cross-functional teams that work closely with stakeholders, including suppliers, to ensure alignment and responsiveness throughout the programme lifecycle.

This approach has been highly effective in managing complex programmes, such as Provision of Distress and Safety Communications Service Programme. It allows work to be broken into manageable increments, results can be delivered in shorter cycles, and priorities can be adjusted based on feedback and evolving needs. Success in using this model is reflected in improved programme outcomes, increased stakeholder satisfaction, and enhanced ability to manage risks and quality.

Programme structure, and governance and key roles

The EORC programme will use a two-tier governance and programme structure, across both Maritime NZ and Ministry of Transport for this work.

1 A decision-making governance structure comprising:

- Deputy Chief Executive Policy, Ministry of Transport
- Deputy Chief Executive, Response, Security and Safety Services, Maritime NZ (also Senior Responsible Owner)

2 An integrated programme team comprising:

- Manager, Resilience & Security, Ministry of Transport
- Principal Adviser, Resilience & Security, Ministry of Transport
- Chief Advisor, Response, Security and Safety Services, Maritime NZ (also Programme Manager)
- General Manager Maritime Response, Maritime NZ

Maritime New Zealand is the programme owner and lead and will also run an internal Working Group to support the programme works, including staff from a range of functional areas – response, technical advice, procurement, and finance.

Programme reporting arrangements

Programme reporting enables effective management and allows for the key stakeholders involved to:

- monitor progress to ensure alignment with Maritime NZ priorities and outcomes
- provide a channel for issue and risk escalation
- control the budget, resources, schedule and deliverables
- associated with the programme to ensure overall objectives and benefits are delivered
- engage effectively with the programme's stakeholders.

There are various levels of reporting required for the successful delivery of EORC. The internal and external programme reporting arrangements have been outlined below.

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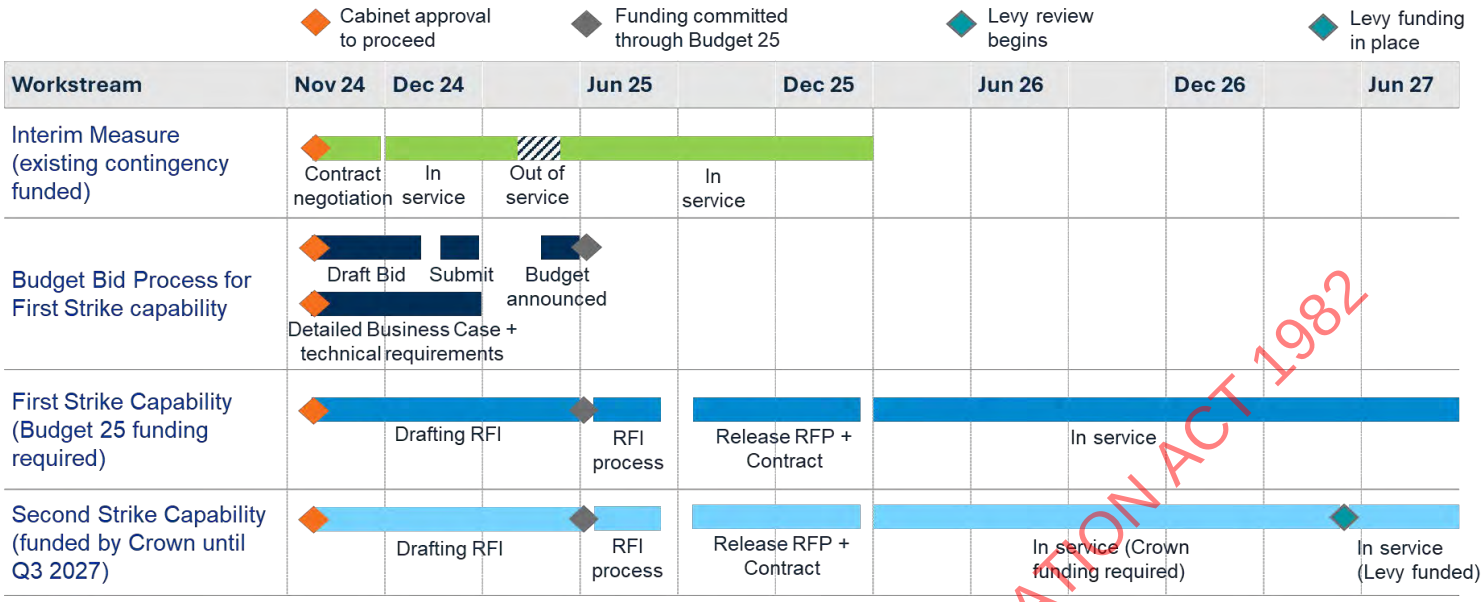
Outline programme plan



Organisational change management

There is unlikely to be substantial organisational changes associated with this programme. Maritime NZ will have to manage a procurement process and resulting contract(s) but this can be absorbed into baseline activity.

Risk management

A Risk Management Strategy & Framework have been developed. Responsibility for risk management has been assigned and a risk register established; this will be progressively updated as more detailed analysis is undertaken.

Risks should be considered as part of programmes and in our day-to-day work. Maritime NZ has an Enterprise Risk Management policy, aligned to the New Zealand standard ISO 31000:2018 Risk management – guidelines. Maritime NZ manages risks using the lifecycle process.

Key to this process is the programme risk and issue register which is used to record and manage all programme risks. A risk scoring system will be used to more effectively identify risks for escalation and prioritisation that is based on likelihood, consequences, timeframes and impact horizon.

Programme and business assurance arrangements

Gateway Reviews are not required as this programme has not been assessed as High Risk.

This investment proposal was initially assessed as high risk using the Treasury's Risk Profile Assessment tool and moderation process, which was confirmed by the moderation process. This was based on the initial suite of options which included higher risk possibilities. After a shortlisting process it became apparent that the higher risk options would not be viable. This meant that the risk was re-assessed as medium.

Key assurance activities will be regularly reviewed and updated on a three-monthly basis at a minimum to ensure the assurance activities align to the decisions and milestones and any emerging risks. This will involve undertaking regular reporting to the Governance Board.

Quality assurance (QA)

Specific tools and techniques will be used to quality check the deliverables. The following approaches will be used:

- Develop a quality assurance plan and define quality metrics;

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- Adopt a test-driven development approach with continuous testing;
- Embed QA expertise within each of the squads to influence development and operational processes;
- QA review data from automated tests and use it to expose the likely causes of defects, and where they are likely to occur again if not addressed; and
- QA owns continuous improvement and quality tracking for example identifies problems in the product, environment and process and recommend changes.

Post-programme reviews

A post implementation review will be included in planning to confirm that the new system / facilities are operating as intended and delivering the services proposed in the business case, and to identify any lessons learned from the management of the programme/tranche that can be applied to future programmes or programmes in other agencies.

As required by Cabinet Office Circular CO (19) 6[6], this programme will report back to Cabinet within 12 months of the in-service date on the actual level of benefits achieved compared with those outlined in the Cabinet-approved investment.

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6 https://dpmc.govt.nz/publications/co-19-6-investment-management-and-asset-performance-state-services

Annex 1: Long-list options assessment detail

Long-list options assessment

The potential programme options in each of the five dimensions were assessed against the Investment Objectives and Critical Success Factors.

Table 25: Long-list options assessment detail

	Scale and scope				Service solution					Service delivery			Funding					Implementation			
	1.1 Cook Strait focus	1.2 Cook Strait focus, with potential enhanced national	1.3 Full National coverage	1.4 Pacific and Southern Ocean coverage	2.2 Regulatory change only	2.3 Alternative / no tug solutions	2.4 Stabilise and hold capability	2.5 Stabilise, hold, and subsequently tow capability	2.6 Single hold and tow capability	3.1 Private provision	3.2 Crown partnership with private and commercial	3.3 Full Crown ownership and delivery	4.1 Baseline Maritime NZ funding	4.2 Baseline Maritime NZ funding with shortfall from the	4.3 Partial cost recovery from local users	4.4 Full cost recovery from users	4.5 Fully Crown funded	5.1 Phased implementation by impact	5.2 Phased implementation by complexity	5.3 Rapid implementation	**Assessment rationale**
IO 1: To enhance New Zealand's ability to prevent maritime incidents involving large vessels from escalating and increasing risk	P	Y	Y	Y	P	P	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	P	Y	**No:** Does not help us reduce risk **Partial:** Improves ability to reduce escalation, but only partially (region or capability based) **Yes:** Directly impacts ability to prevent escalation
IO 2: To meet reasonable public expectations regarding the provision of EORC in the Cook Strait	Y	Y	Y	Y	P	P	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	P	Y	**No:** Unlikely to meet public expectations **Partial:** Enables some improvement in perception **Yes:** Likely to improve public perception
IO 3: To ensure that there is sufficient EOR capability to stabilise and / or tow vessels that encounter difficulties at sea within an appropriate timeframe	P	Y	Y	Y	N	N	P	Y	P	N	Y	Y	N	Y	Y	Y	Y	Y	P	Y	**No:** Does not provide capability to hold or tow **Partial:** Capability to hold or tow only **Yes:** Capability to hold and tow
CSF 1: Business requirements	P	Y	Y	N	N	N	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	P	Y	**No:** Does not meet one of the Ios **Partial:** Scores a partial against an IO **Yes:** Fully meets Ios
CSF 2: Potential value for money	Y	Y	N	N	P	Y	Y	Y	Y	P	Y	P	N	N	Y	Y	N	Y	Y	P	**No:** Present overall VFM (i.e., high cost for low benefit, or too much risk retained) **Partial:** Questions about VFM remain **Yes:** Likely to provide an appropriate balance of cost, benefit, and risk
CSF 3: Supplier capacity and capability	Y	Y	?	N	Y	Y	P	P	P	N	Y	Y	N	Y	Y	P	Y	Y	Y	P	**No:** Unlikely market can respond **Partial:** Possible market can respond **Yes:** Likely market can respond
CSF 4: Potential affordability	P	P	N	N	Y	Y	P	P	P	Y	P	N	N	N	Y	Y	N	Y	Y	P	**No:** Unlikely sufficient funding available **Partial:** Possible funding availability **Yes:** High likelihood of funding availability
CSF 5: Potential achievability and risk	Y	Y	?	N	Y	Y	Y	Y	Y	N	Y	Y	N	P	Y	P	P	Y	Y	P	**No:** Too high complexity or risk to deliver **Partial:** Challenging but possible to deliver **Yes:** Likely to be deliverable
Progressed / not progressed	Progressed	Preferred	Not Progressed	Not Progressed	Not Progressed	Not Progressed	Progressed	Preferred	Progressed	Not Progressed	Preferred	Not Progressed	Not Progressed	Not Progressed	Preferred	Progressed	Not Progressed	Preferred	Progressed	Progressed	**Not progressed:** Discounted from further consideration **Progressed:** Retained for inclusion in shortlist **Preferred:** Most likely option at this stage
	Scale and scope				Service solution					Service delivery			Funding					Implementation			

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Annex 2: Full list of benefits

Domains	Benefit
Income, consumption and wealth	• Decreased likelihood of major maritime incident means decreased likelihood of both indirect and direct costs as a result of vessel loss, salvage, and operating impacts. • The availability of EORC reduces the risk that a significant maritime incident in the Cook Strait causes damage to New Zealand's international reputation. • EORC vessel(s) will be able to undertake other commercial activities when not in use.
Environmental amenity	• The Cook Strait environment is protected by rapid response to prevent accidents (such as vessels running ashore) or minimise the damage resulting from incidents. Large-scale marine oil spills such as the Rena disaster are less likely to occur, along with other impacts on the environment from hazardous substances or the vessel itself.
Safety	• The safety of maritime users is enhanced through reduction of the risk of a significant maritime incident in the Cook Strait.
Jobs and earnings	• Will create a small number of additional jobs for crewing and maintenance of the EORC vessel(s).
Civic engagement and governance	• The public's trust in Government to provide effective emergency maritime response is enhanced.

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Annex 3: Financial assumptions

Description	Assumption applied	Methodology and source
Overarching assumptions		
Operations term	10 years. 1 January 2026 – 31 December 2035	
Inflation	2%	Long-term CPI target
Strike 1 – Scenario 1 assumptions		
Annual operations costs (present-day value)	s 9(2)(j)	
Capital costs (present-day value)	s 9(2)(j)	
Asset depreciation	Straight-line over 25 years	Treasury recommended lifetime
Capital charge	5% of year-end net book value of assets	
Strike 1 – Scenario 2 assumptions		
Annual operations costs (present-day value)	s 9(2)(j)	
Operating lease term	10 years	Same as operations term.
Operating lease implied cost of capital	8%	Treasury recommended cost of capital
Operating lease starting value (as at start of operations period)	s 9(2)(j)	Implied capital costs with s 9(2) of present-day value inflated at the inflation rate.
Strike 2 assumptions		
Annual operations costs (present-day value)	s 9(2)(j)	

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Document 2

8 November 2024

New Zealand's Emergency Ocean Response Capability

Indicative Business Case Executive Summary

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Nō te rere moana Aotearoa
MARITIME NEW ZEALAND

The Proposal

A series of significant maritime incidents across New Zealand and in the Cook Strait have highlighted New Zealand's lack of emergency ocean response capability.

This business case seeks to ensure that New Zealand has the ability to quickly reach and stabilise vessels in distress in the Cook Strait (First-strike), and to tow a stricken vessel within New Zealand's coastal waters (Second-strike).

We seek your agreement to progress our preferred option, which is to procure both First- and Second-strike capabilities through one or more contracted service provider(s).

Recent maritime incidents highlight the ongoing need for emergency response…

There have been a number of recent, significant incidents around the coast of New Zealand which have required ocean going emergency response capability. For example, in the Cook Strait; the Kaitaki lost power in 2023, the Aratere grounded in 2024, and the Connemara lost power in 2024. Each of these events presented a material risk to life.

… the only capable vessel in New Zealand waters is leaving…

In response to these events, small harbour tugs (only designed to work within harbour limits) were the first response. However, they were only able to provide limited assistance and could not have responded at all in more adverse conditions. Significantly more capable vessels are required to provide an effective response.

These more capable vessels have previously been available off the coast of NZ. However, they are now departing New Zealand waters. There will be no emergency response capability from Feb – April 2025 and the capability will be permanently lost from June 2025.

… we are seeking an enduring solution

To address the issue, this business case proposes additional Crown investment into both the First-strike and Second-strike capabilities.
Our preferred option proposes a Cook Strait-specific First-strike and a national Second-strike capability.

An interim solution to enable immediate continuation of Second-strike service is being discussed separate to this business case.

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NOT GOVERNMENT POLICY

The Case for Investment

New Zealand's economy depends on a functioning shipping and maritime sector for cargo, tourism, and passenger movements. An average of 1.2 million people travel on the Cook Strait ferries every year.

Investing in emergency ocean response capability means that when ships get in distress in New Zealand coastal waters, the worst-case scenario can either be prevented or mitigated.

Maritime disasters have a significant impact on the New Zealand economy. The 2011 MV Rena grounding directly cost the Crown $46m and the wider economic impact is conservatively estimated at $100m. While New Zealand has not experienced a significant loss of life from a marine disaster in the 21st Century, recent high-profile incidents in the Cook Strait were fortunate to avoid this worst-case scenario.

This investment aligns with Government priorities to:

- Lift New Zealand's productivity and economic growth, and
- Improve the effectiveness of government-funded services.

NOT GOVERNMENT POLICY

The Case for new Crown funding

The Crown involvement is necessary because:

- Dedicated rescue services are not commercially viable in their own right. Traditionally, New Zealand has had to rely on commercial vessels with response capability to render assistance when required.
- There are no longer sufficient commercial opportunities to keep these vessels in New Zealand. The last of these vessels is set to leave permanently in June 2025.
- To guarantee that a response capability is available in New Zealand, Crown intervention is required.

Options for cost recovery

- The First-strike component provides a public good and, in line with Treasury and OAG funding guidelines, should be funded directly by the Crown. This would be via a Vote Transport appropriation in Budget 25 and outyears.
- The Second-strike component provides a national benefit and could be levy funded. However, Maritime NZ cannot re-allocate existing levy funding to support this, and levies cannot be increased until July 2027. In the interim, any Second-strike capability would need to be funded through Crown funding.

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Preferred Option

The preferred option would see:

- **First-strike capability -** A Cook Strait based capability to stabilise and hold stricken vessels in distress in a timely manner;
- **Second-strike capability** - A separate national capability which can arrive at an incident within an appropriate timeframe, with the capability to tow stricken vessels in distress back to port / to safety;
- **Commercial approach** – An arrangement between the Crown and commercial operators to ensure both capabilities are in place for a period of 10 years. The vessels would undertake commercial activity when not needed for response;
- **Funding approach** - Crown funding for the First-strike capability, with cost recovery for the Second-strike capability. The Crown will only pay for costs associated with the availability of emergency response services (i.e. a 'retainer' arrangement). Response costs are recovered through existing measures (including vessel insurance).

	10 year cost	Crown funded	Levy funded
s 9(2)(j)			

** These costs are indicative and will require further validation as part of Budget 25 and Detailed Business Case development.*

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Benefits

The benefits from the proposed emergency response capability primarily derive from preventing, or limiting the damage of, a significant maritime incident (such as a grounding or oil spill). Key stakeholders and their benefits include:

Government

Direct Economic Benefits – there is direct economic benefit in avoiding cost to the government by having to salvage a significant maritime incident. The direct cost to the Government of the MV Rena cleanup was $46m ($62m in 2024).

Indirect Economic Benefits – there are benefits in reducing or avoiding the negative impact on economic activity from an incident. This was modestly estimated as $100m ($115m in 2024) for the MV Rena, but would be considerably higher if it occurred in an area of significant economic activity like the Cook Strait or closer to Tauranga.

Environmental Benefits – The environment is protected by rapid response to prevent accidents, such as vessels running ashore or vessels discharging hazardous substances.

Maritime Operators

Economic Benefits – direct economic benefit by reducing and preventing the cost to operators of an incident. Indirect economic benefits around timeliness / availability.

Oil, gas and seabed mining industry

Direct Economic Benefits – the offshore oil and gas sector relies on anchor handling tugboats (used as vessels of opportunity to date) for servicing and maintenance. However, there is not sufficient demand to keep these vessels in New Zealand permanently. Retaining a Second-strike capability in New Zealand could enhance the commercial viability of the oil, gas and seabed mining sector.

Maritime Users

Safety – an incident will be less likely to result in a loss of life scenario if vessels can be stabilised. The New Zealand Transport Agency estimates the Value of a Statistical Life at $12.5m. 1.2 million people travel on the Cook Strait ferries every year, and the largest cruise ships that visit New Zealand waters can carry up to 4000 passengers.

Ports

Direct Economic Benefits – if a port tugboat is required to respond to an emergency, the port does not cost recover for the service. Ports may also have to suspend port operations while their tugboat is engaged, impacting both Port and wider commercial activity.

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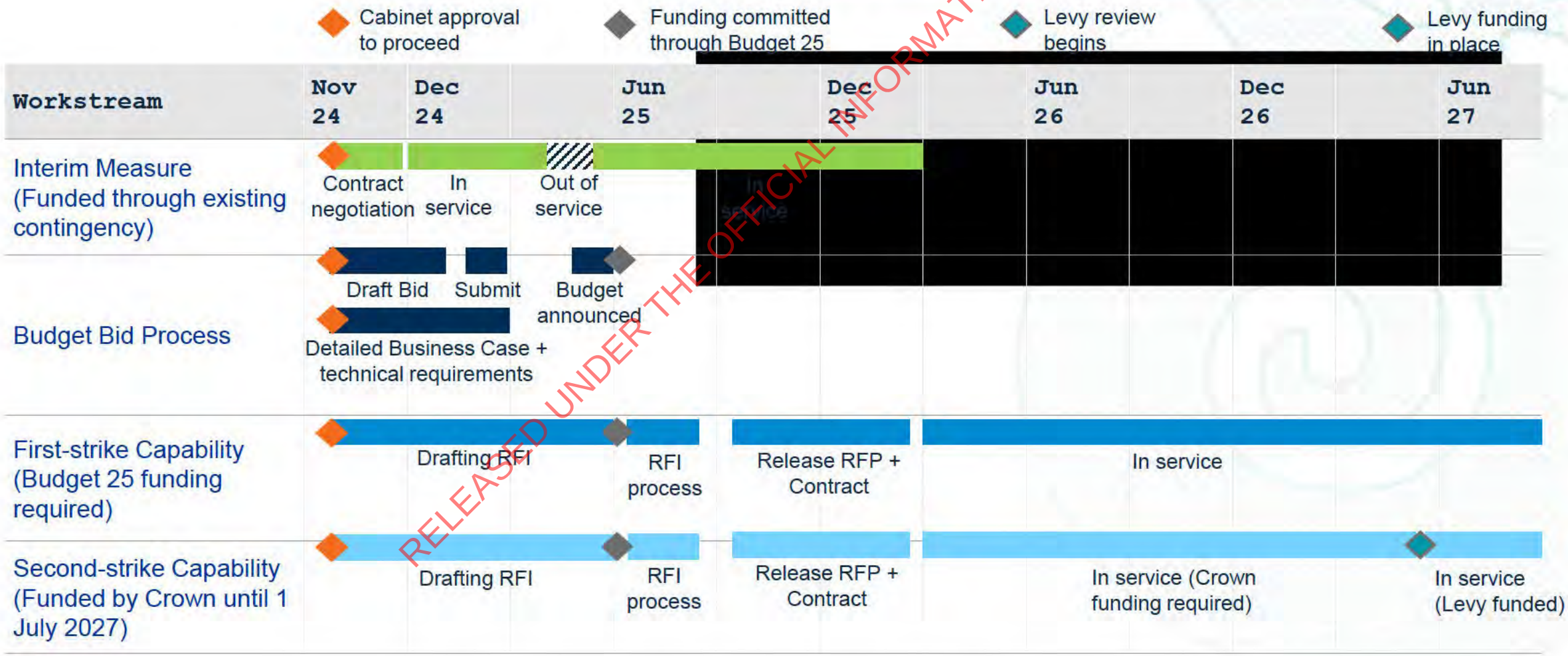
Programme milestones

NOT GOVERNMENT POLICY

	Service commencement	End date
Interim Solution	December 2024	Q1 2026
First-strike	Q1 2026	Q1 2036
Second-strike	Q1 2026	Q1 2036



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Nō te rere moana Aotearoa

MARITIME NEW ZEALAND

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REPORT.

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FINAL REPORT

TECHNICAL SUPPORT REPORT FOR THE DETAILED BUSINESS CASE: EMERGENCY OCEAN RESPONSE CAPABILITY (EORC)

UNDERTAKEN ON BEHALF OF KPMG

REPORT AMENDMENT RECORD

Rev	Description of Amendment	Author	Checked	Approved	Signed
0	Final Draft for Internal Discussion	HP/MV	JZ	SH	
1	Issued for Internal QA	HP	MV	SH	
2	Issued to Client	HP	MV	SH	

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1.0 EXECUTIVE SUMMARY

The Emergency Ocean Response Capability framework is a proactive measure aimed at enhancing maritime safety by addressing emergencies involving vessels in distress. With the decreasing availability of offshore support vessels in New Zealand, reliance on "vessels of opportunity" is becoming less practical, particularly in high-risk areas like the Cook Strait. Further detailed analysis will be required to ensure that the maritime response capacity of New Zealand aligns effectively with the future maritime growth and evolving operational requirements.

This review proposes a dual-strike Emergency Towing Vessel (ETV) model to address potential gaps in response. A first-strike ETV, stationed locally, would focus on rapid stabilisation and immediate assistance, while a second-strike ETV would provide the capability for extended towing and salvage operations. Vessels with a minimum bollard pull of 85 tonnes and 100 tonnes (local and regional reach), supported by advanced towing equipment, firefighting capabilities, and adequate endurance, are recommended. Funding mechanisms, including public-private partnerships and dual-use commercialisation opportunities, have been outlined to ensure feasibility. These recommendations will require further detailed analysis to ensure that New Zealand's maritime response capacity is adequately aligned with the country's future maritime growth and evolving operational demands.

2.0 EMERGENCY OCEAN RESPONSE CAPABILITIES (EORC)

EORC is a critical framework designed to address maritime emergencies by stabilising or towing large vessels in distress. In New Zealand, the reliance on "vessels of opportunity" has worked adequately to date. However, the loss of ETV-capable Oil & Gas support vessels means this option will not be available in the future. Furthermore, these vessels are often located too far away to provide a fast first-strike response in high-risk areas like the Cook Strait. Recent incidents, such as the near-grounding of Kaitaki Ferry and the breakdown of MV Shilling, have highlighted the challenges in the maritime response, emphasising the importance of strengthening a dedicated EORC system to mitigate risks effectively.

The proposed EORC model identifies three primary response types: First-strike, Second-strike, and Single-strike capabilities. First-strike involves locally stationed vessels capable of rapid stabilisation to prevent immediate escalation, a necessity for high-traffic areas like the Cook Strait. Second-strike capabilities extend the response by towing Stabilised vessels to places of refuge, typically requiring larger vessels positioned regionally. A Single-strike vessel combines both functions, offering comprehensive response capabilities in a single unit. These operational categories reflect the need for tailored solutions to address varying levels of emergency severity and geographic conditions.

The Cook Strait is the focal point for EORC planning, reflecting its unique maritime risks and strategic importance. Constrained geography, high passenger volumes, and extreme weather conditions combine to make the strait New Zealand’s most vulnerable maritime zone. However, the broader national context cannot be ignored. Incidents in regions like Taranaki and the Marlborough Sounds highlight the need for flexible, deployable capabilities that can address risks across the country, even while maintaining primary coverage for the Cook Strait.

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The document outlines various approaches to delivering and funding EORC and ETV Capability services. Options include full Crown ownership, public-private partnerships, and private provision, each presenting distinct advantages and challenges. For instance, while Crown ownership offers control and reliability, it comes with significant costs. Private provision, on the other hand, suffers from limited commercial incentives due to the specialised nature of EORC vessels. Funding mechanisms under consideration include direct Crown funding, partial cost recovery through levies on operators or passengers, and mixed models aimed at balancing affordability with operational sustainability.

New Zealand's current emergency response capacity faces substantial challenges. Existing Harbour Tugs, while sufficient for inner-harbour duties, lack the technical specifications and endurance required for open-sea emergencies. s 9(2)(ba)(i) [redacted] The proposed EORC solutions aim to bridge these gaps by introducing purpose-built, strategically positioned capabilities, ensuring compliance with New Zealand's international obligations under SOLAS and safeguarding its maritime environment and economy.

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3.0 NEW ZEALAND PORTS OVERVIEW

The ports in New Zealand handle a diverse range of maritime traffic, catering to specific cargo types and vessel sizes. This technical study has undertaken an analysis of traffic data derived from the ports listed below, using this information to inform and shape the proposed capabilities and deployment strategy for an ETV.

Based on the available information, we understand that New Zealand does not have a formally designated place of refuge where distressed vessels can seek shelter during emergencies. However, based on our practical emergency response knowledge, decisions regarding providing refuge should be made on a case-by-case basis, considering factors such as the condition of the vessel, environmental risks, and the safety of the port facilities.

Ports like Tauranga, Lyttelton, or Wellington may potentially serve as refuge sites due to their infrastructure and capabilities, but this depends on the specific circumstances of the incident and the approval of the authorities.

Below is the list of ports that have been used for substantiating our data set.

Marsden Point/Northport

Marsden Point, also known as Northport, primarily handles timber, wood products, bulk liquids (including petroleum), and containerised cargo. The port features three main berths with a total quay length of 570 meters and can accommodate vessels with a maximum draft of 13.0 meters.

Ports of Auckland

The Ports of Auckland handle a diverse range of cargo including containers, vehicles, breakbulk, liquid bulk, and cruise ships. With multiple berths and a combined quay length exceeding 2,400 meters, the port can accommodate vessels with drafts up to 12.5 meters.

Port of Tauranga

The Port of Tauranga is a major hub for containers, logs, forestry products, and bulk cargo such as coal and fertilisers. It has 15 berths spread across two wharves, Mount Maunganui and Sulphur Point, and can handle vessels with a maximum draft of 14.5 meters.

Napier Port

Napier Port specialises in handling containers, logs, agricultural products, and general cargo. It features six main berths with a total length of approximately 1,700 meters and can accommodate vessels with drafts up to 12.2 meters.

Port Taranaki

Port Taranaki handles bulk liquids, dry bulk, logs, and breakbulk cargo. It has seven berths, including specialised tanker berths, and can accommodate vessels with a maximum draft of 13.0 meters.

Port of Whanganui

The Port of Whanganui supports smaller volumes of logs and bulk cargo with its limited berth facilities. Primarily serving smaller coastal and riverine vessels, it accommodates ships with a maximum draft of approximately 2.5 meters.

Eastland Port (Gisborne)

Eastland Port in Gisborne primarily exports logs and forestry products. It has two berths dedicated to log exports and can handle vessels with a maximum draft of 10.0 meters.

CentrePort (Wellington)

CentrePort in Wellington handles containers, bulk liquids, logs, and general cargo. With multiple berths and a total quay length of approximately 2,300 meters, the port accommodates vessels with drafts up to 11.0 meters.

Port Nelson

Port Nelson handles a mix of logs, seafood, wine, and general cargo. It features six berths with a total quay length of 700 meters and can accommodate vessels with a maximum draft of 10.5 meters.

Port Marlborough (Picton)

Port Marlborough in Picton handles logs, bulk cargo, and passenger ferries. It features multiple berths supporting ferry and forestry operations and can accommodate vessels with drafts up to 9.0 meters.

Lyttelton Port

Lyttelton Port is a key hub for containers, coal, dry bulk, and liquid bulk cargo. It has several berths, including container and bulk cargo facilities, and can handle vessels with a maximum draft of 14.5 meters.

Port Otago

Port Otago specialises in handling containers, logs, and cruise ships. With multiple berths, including dedicated container and log berths, it can accommodate vessels with a maximum draft of 13.0 meters.

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South Port (Bluff)

South Port in Bluff handles logs, aluminum, seafood, and bulk cargo. It features eight berths with a total length of approximately 1,200 meters and can accommodate vessels with a maximum draft of 9.7 meters.

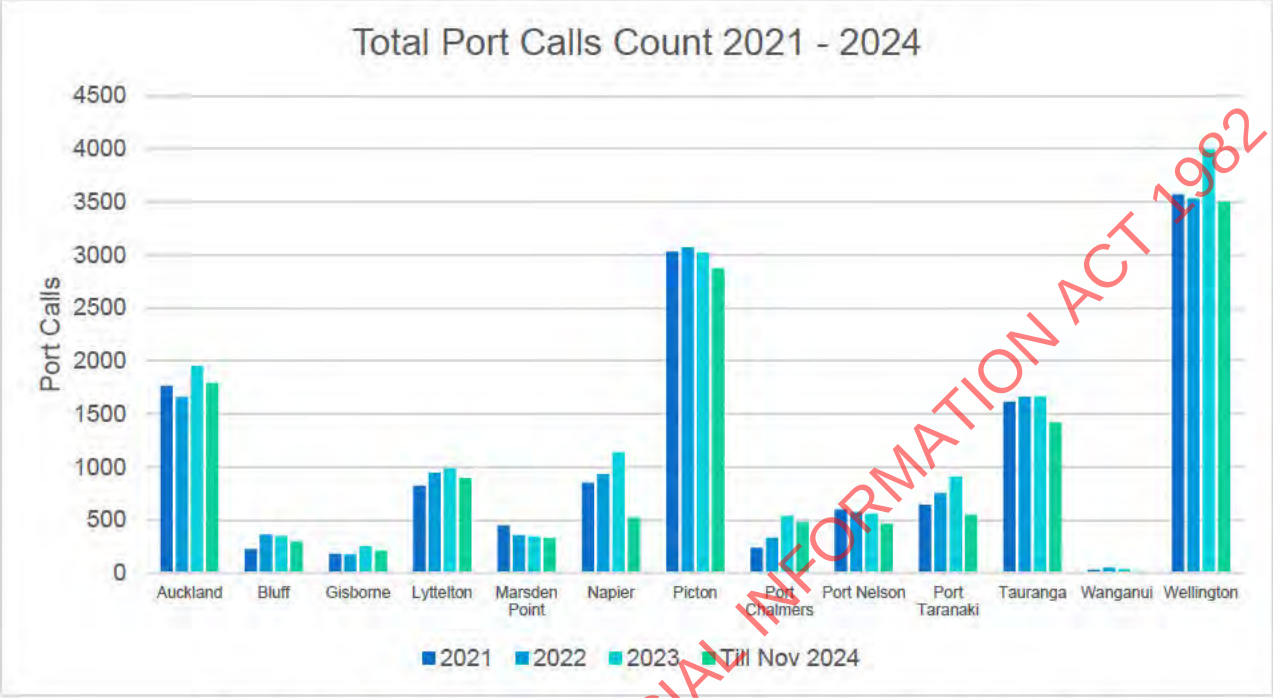

Illustration 1 : Total Port calls recorded in New Zealand Ports from Jan 2021 to Nov 2024.

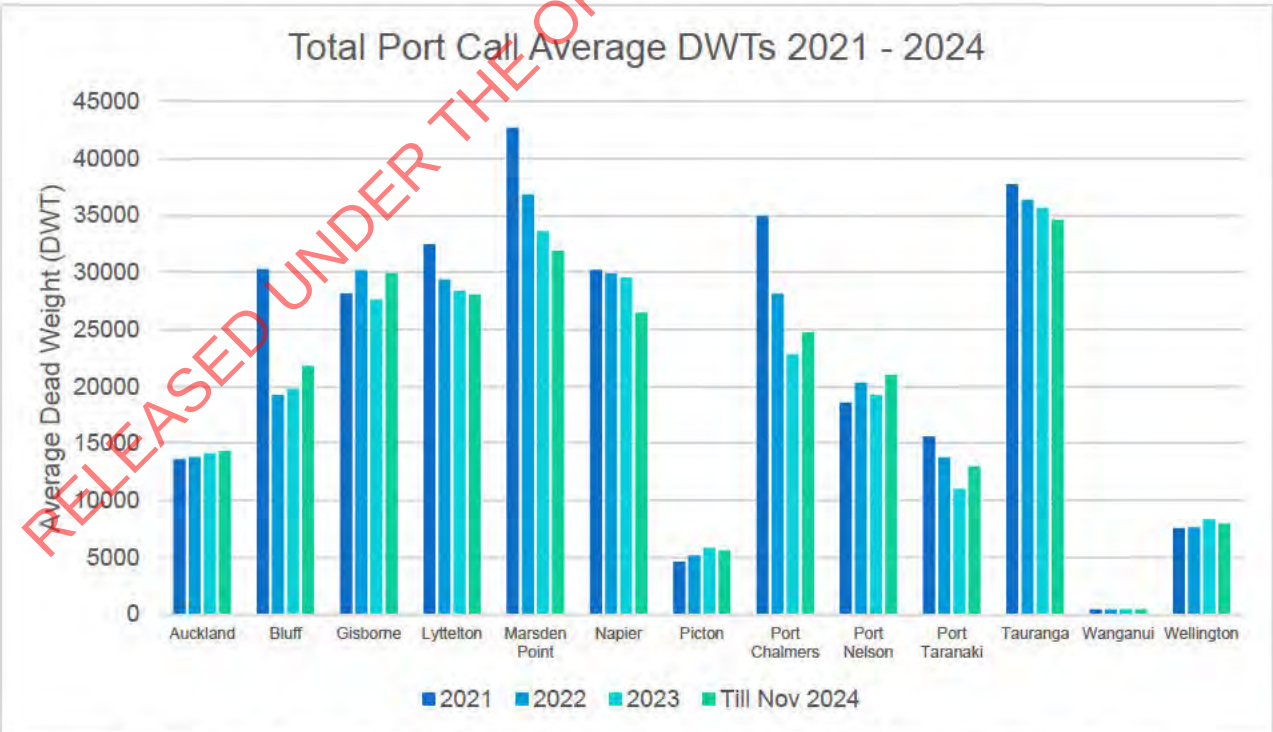

Illustration 2 : Average Dead Weight (DWT) of Vessel calling New Zealand Ports from Jan 2021 – Nov 2024

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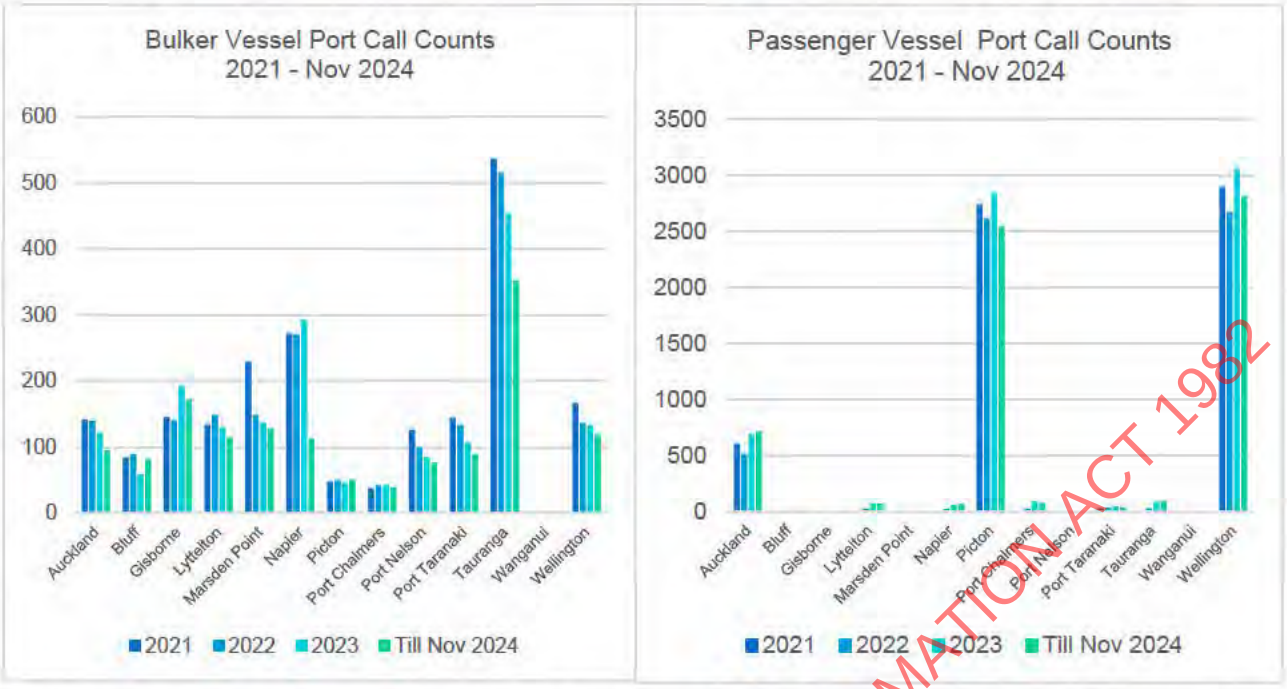

Illustration 3 : Total Port calls recorded for Bulk Carriers and Passenger Vessels in New Zealand Ports from Jan 2021 to Nov 2024.

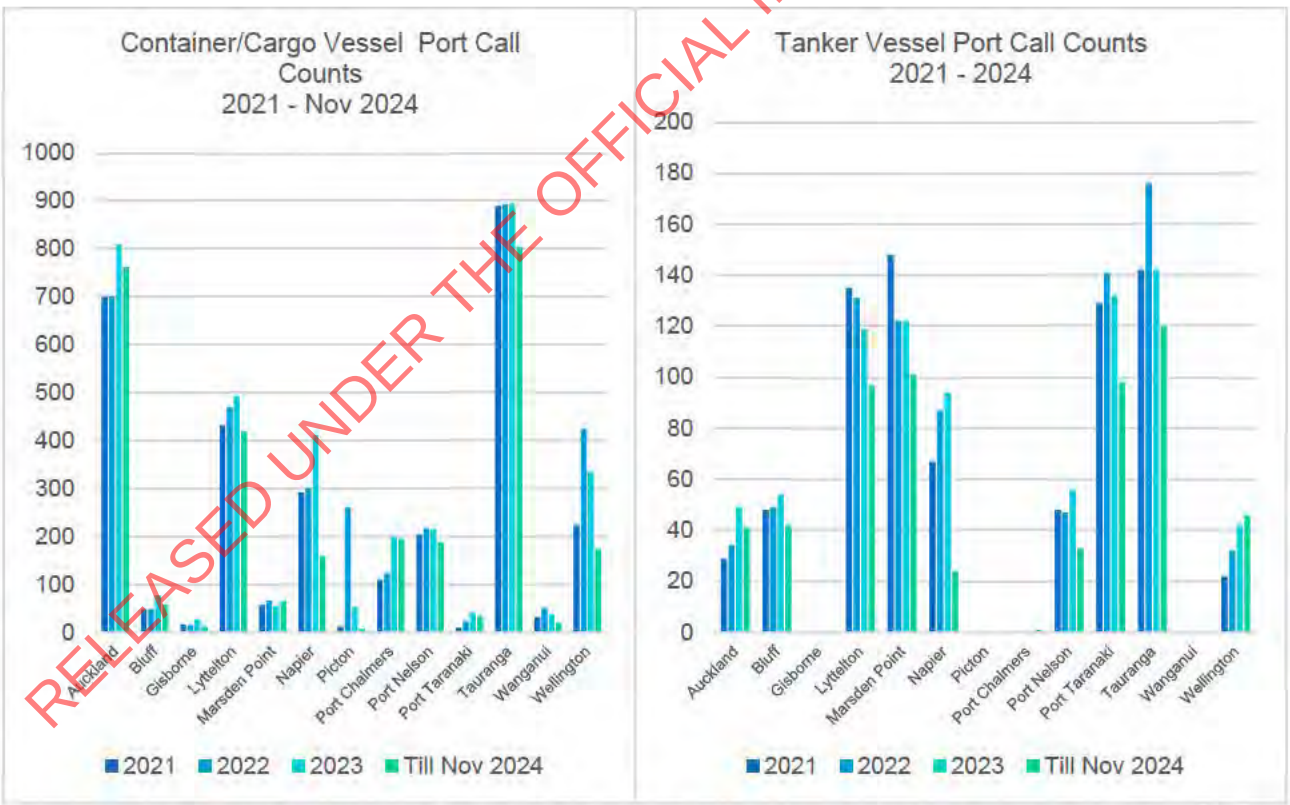

Illustration 4 : Total Port calls recorded for Container and Tanker Vessels in New Zealand Ports from Jan 2021 to Nov 2024.

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The above data captures the port call data for New Zealand from 2021 to 2024.Overall, there has been a steady increase in the total number of port calls from 2021 to 2024 (taking into consideration that the data for 2024 is not complete), with growth across various ship categories such as bulk carriers and tankers.

Wellington consistently records the highest number of port calls, driven predominantly by passenger vessels and cargo ships. In 2023, it registered 3,995 calls, with passenger vessels contributing significantly. Picton follows closely, largely due to its role as a key hub for inter-island ferry transportation, with passenger traffic forming the bulk of its activity. Ports like Tauranga and Auckland also play a vital role in cargo traffic. Tauranga, in particular, leads in handling bulk and general cargo, with 895 cargo vessel calls in 2023. Auckland, another key port, recorded 809 cargo vessel calls in the same year.

For bulk carriers, Tauranga and Marsden Point handle the largest volumes, with Tauranga managing 453 bulk carrier calls in 2023, highlighting its importance as a bulk cargo hub. Tanker traffic is concentrated in Marsden Point and Port Taranaki, which cater primarily to the oil and gas industries. In 2023, these ports handled 122 and 132 tanker calls, respectively. Meanwhile, smaller ports like Wanganui cater to limited traffic, reflecting their specialized or restricted operational scope.

Passenger traffic continues to form a significant part of port activity, particularly in Wellington and Picton, which support both domestic ferry routes and cruise ship operations. Cruise ships visiting New Zealand often call at ports across the country, including those near the Cook Strait. Due to limited berth space in some ports, these vessels frequently anchor offshore and tender passengers to the port as part of their call.Ports like Gisborne and Bluff have shown increases in vessel calls, indicating growing regional port activity, while Lyttelton and Napier maintain stable operations with a mix of bulk cargo and passenger traffic.

This analysis highlights the need for ETV capabilities to be strategically aligned with high-traffic areas such as Wellington, Tauranga, and Auckland. Ensuring a rapid response in these key locations will enhance maritime emergency management and provide better support for maritime operations.

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4.0 EMERGENCY TOWING CAPABILITIES

An ETV is a maritime asset designed to be able to respond to vessels in distress. The scope of such vessel includes stabilising or towing the affected ship to safety.

An ETV is deployed based on the geographic coverage required and the operational scope of its duties. Deployment models typically include a single-vessel concept or a multi-vessel configuration. For instance, India employs a seasonal multi-vessel model, with one ETV stationed on the east coast and another on the west coast during the southwest monsoon season. In contrast, Australia's ETV model operates as a single-tug arrangement year-round.

The effectiveness of an ETV relies on several critical components:

i. Its ability to operate in challenging weather conditions,

ii. Its bollard pull (which is the amount of push or pull that the vessel can exert on the distressed vessel), manoeuvrability, endurance, and towing equipment,

iii. The support systems that enable its deployment. These support systems include crew training and readiness, effective communication channels, adherence to international and national regulations, and the strategic positioning of the vessel to ensure rapid response times.

Together, these factors ensure that and ETV deployment is capable of addressing maritime emergencies effectively. This review will analyse these aspects in detail, focusing on how they contribute to a robust Emergency Ocean Response Capability.

Below are the various categories of distress scenarios that are expected and the roles of the ETV for each distressed vessel .

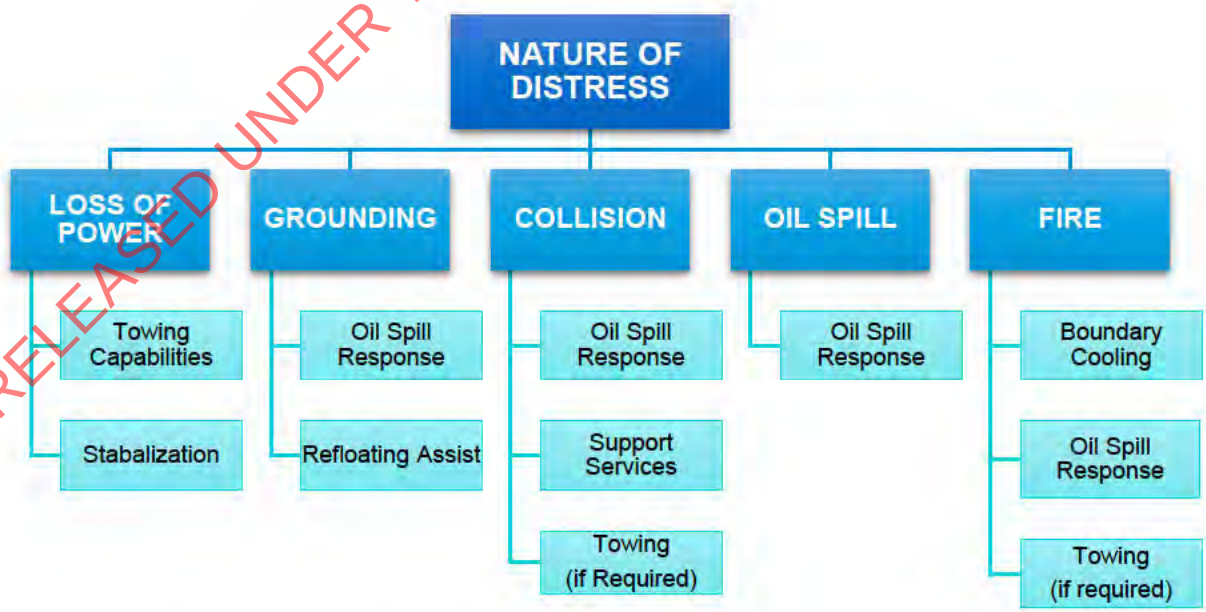

Illustration 5: Scopes of work for ETV under various Emergency Response Scenarios

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5.0 WEATHER

5.1 BEAUFORT WIND SCALE

The Beaufort Wind Scale is an empirical measure that relates wind speed to observed conditions at sea. Below is a classification table for reference:

Force	Description	Wind Speed (knots)	Sea Conditions
0	Calm	< 1	Sea like a mirror
1	Light Air	1-3	Ripples with appearance of scales, no foam crests
2	Light Breeze	4-6	Small wavelets, crests glassy, no breaking
3	Gentle Breeze	7-10	Large wavelets, crests begin to break, scattered whitecaps
4	Moderate Breeze	11-16	Small waves becoming longer, frequent whitecaps
5	Fresh Breeze	17-21	Moderate waves, some spray
6	Strong Breeze	22-27	Large waves begin to form, white foam crests more extensive, spray likely
7	Near Gale	28-33	Sea heaps up, white foam from breaking waves blows in streaks
8	Gale	34-40	Moderately high waves, edges of crests break into spindrift, foam blown in well-marked streaks
9	Strong Gale	41-47	High waves, dense foam from breaking waves begins to be blown in streaks
10	Storm	48-55	Very high waves with long overhanging crests, surface white with densely blown foam
11	Violent Storm	56-63	Exceptionally high waves, small- to medium-sized ships lost to view behind waves
12	Hurricane Force	≥ 64	Air filled with foam and spray, sea completely white

Table 1 : Beaufort Wind Scale

For standard calculations, a wind speed of 20 m/s (equivalent to 38.9 knots) is recommended, corresponding to Force 8 on the Beaufort scale.

Gales are a key concern in nautical weather, classified as Force 8 to Force 10 on the Beaufort scale. In Cook Strait, gales are frequent, driven by the geographical funnelling of winds between the two islands.

5.2 ANNUAL GALE INCIDENCE

Cook Strait experiences an average of **25 gales annually**, making it one of the most gale-prone areas in New Zealand. These gales predominantly occur due to strong northwest (NW) and south-southeast (SSE) winds that are funnelled through the strait, amplifying their intensity.

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Image 1: Beaufort Force 7 – Near Gale Sea Conditions

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5.3 GENERAL WIND CONDITIONS

Winds are predominantly from the northwest (NW) and south to southeast (SSE). Localised NW winds create high-speed bursts in specific areas, while southerly gales are widespread, with their effects felt across the strait.

5.4 SEASONAL WEATHER PATTERNS

Summer, occurring from December to February, experiences moderate NW winds as the predominant condition. Calmer weather is typical for this season, although occasional gales still occur. Autumn, which spans from March to May, is a transitional period with winds varying between NW and S. Swells rise due to the increased frequency of seasonal storms. Winter, from June to August, is characterised by the highest gale activity, dominated by southerly winds. Swells often exceed 3 meters, making sea conditions particularly rough. Spring, occurring from September to November, sees strong NW winds dominating, with mixed transitional conditions as the region approaches summer. Occasional gales may also occur.

5.5 SEA AND SWELL CONDITIONS

Southern gales generate significant swells across the southern part of the strait, particularly south of Wellington Harbour. Swell heights frequently exceed 3 meters during gale conditions, with dangerous wave patterns often observed near The Brothers Islands. Heavy tide rips and patches of disturbed water are common near submarine canyons during strong tidal flows, adding to the complexity of the sea state.

5.6 TIDES AND CURRENTS

Tidal streams in Cook Strait are highly influenced by wind direction, with variations ranging from 0.4 to 1 knot. Southerly winds significantly amplify current strengths. The timing of tides differs markedly across the strait, with high water on the western side occurring roughly five hours later than on the eastern side. These differences in tidal timing result in strong tidal flows, which can be further exacerbated by meteorological conditions.

5.7 NAVIGATIONAL HAZARDS

The frequent gales and the high incidence of wind-driven swells coupled with limited sea room make navigation in Cook Strait particularly challenging. Localised magnetic anomalies near submarine cables contribute additional navigational challenges, necessitating precise instrumentation and vigilant monitoring.

Cook Strait's frequent gales, high swell heights, and complex tidal streams make it one of the most challenging and dynamic waterways in the region. Mariners navigating this strait must rely on accurate meteorological data and careful planning to ensure safe passage. The annual occurrence of gales underscores the need for vigilance in this critical maritime zone.

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6.0 BOLLARD PULL

The calculation of **Bollard Pull (BP)**, which represents the towing force exerted by a tug, and the **effective sea state** are critical for determining the feasibility of towing operations under various environmental conditions. Bollard Pull is defined as the force exerted by a Tug in calm water, with the engine operating at full capacity. The calculation begins with determining the environmental forces acting on the vessel, including wind, wave, and current forces. These forces are summed to find the total resistance or towing force required to hold the vessel in place (stall condition). The required Bollard Pull is derived using the formula:

$$BP > FTOT/\eta$$

where FTOT is the total environmental force and η is the towing efficiency of the tug, which varies with environmental harshness and towing speed.

The **environmental forces** are calculated based on the specific conditions at the time of the operation. Wind force depends on the wind speed and the transverse windage area of the vessel, including above-deck structures. Current force is influenced by the underwater transverse section of the hull and the relative speed of the current. Wave forces, or added wave resistance, depend on wave height, vessel dimensions, and its shape, as detailed in DNV guidelines. For open ocean tows, standard environmental parameters are a wind speed of 20 m/s (40 knots), current speed of 0.5 m/s (1 knot), and significant wave height of 5 meters. In benign conditions, lower values of wind speed (15 m/s or 30 knots) and wave height (2 meters) are considered. A wind speed of 40 knots is classified as 'Near Gale' on the Beaufort scale. Our technical review will simulate both 'Near Gale' and 'Gale' conditions (see Table 1) for bollard pull calculations.

The **effective sea state** is assessed by comparing towing parameters, including towing efficiency and resistance, to the available Bollard Pull. The length of a tug is critical in determining its suitability as an ETV, as it impacts stability, manoeuvrability, and seakeeping capabilities, especially in adverse weather. A well-matched length ensures the tug can safely operate within its designated towing parameters and environmental conditions. When the vessel is under tow, the tug's performance at varying speeds must be evaluated, as a portion of the tug's power is used to overcome its own resistance. The effective sea state is modelled by calculating the relative wind, wave, and current forces at different towing speeds and plotting these against the tug's performance curve. The intersection of these curves determines the maximum towing speed feasible in the given sea state. This process ensures that towing operations are within safe and operational limits, providing a comprehensive framework for evaluating both the required Bollard Pull and the prevailing environmental challenges.

Freeboard can influence the bollard pull capabilities for the Tug. A tug with excessive freeboard may experience increased drag from wind resistance, which can reduce the effective bollard pull available during towing operations. On the other hand, a tug with a freeboard that is too low may face challenges in maintaining stability under heavy tow loads in rough sea conditions. An optimal freeboard design ensures that the tug can balance effective towline handling, safety, and stability, while also maximizing its bollard pull performance under varying operational scenarios.

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6.1 HOLDING FORCE

Holding force is the total force required to keep a vessel stationary against environmental factors such as wind, waves, and current. It ensures the vessel remains stable in scenarios like anchoring or mooring. This force is calculated based on wind acting on the exposed areas above the waterline, wave resistance on the hull, and current forces on the submerged portion of the vessel. Holding force is critical during towing preparation or when precise positional control is needed in dynamic conditions.

6.2 TOWING FORCE

Towing force is the force exerted by a tug to move a vessel through water or maintain steady motion against environmental resistance. Unlike holding force, towing force applies to a moving vessel and accounts for drag on both the tug and the vessel being towed. It must exceed the total resistance (FTOT) caused by wind, waves, and currents while factoring in the tug's efficiency, which decreases with speed. A safety margin is often added to ensure reliable towing under variable conditions.

Image 2: Example of Bollard Pull Test

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7.0 COOK STRAITS – GEOGRAPHY

The Cook Strait is an significant and key navigational corridor that separates New Zealand's North and South Islands, linking the Tasman Sea to the Pacific Ocean. The strait's varying water depths and dynamic physical features make it a challenging maritime route. Depths in the strait range significantly, with shallower regions such as those near the Marlborough Sounds and the Kapiti Coast often being less than 30 meters, while deeper channels, including the central parts of the strait, can exceed 200 meters in depth. These depth variations require careful navigation, especially for larger vessels or those with deep drafts.

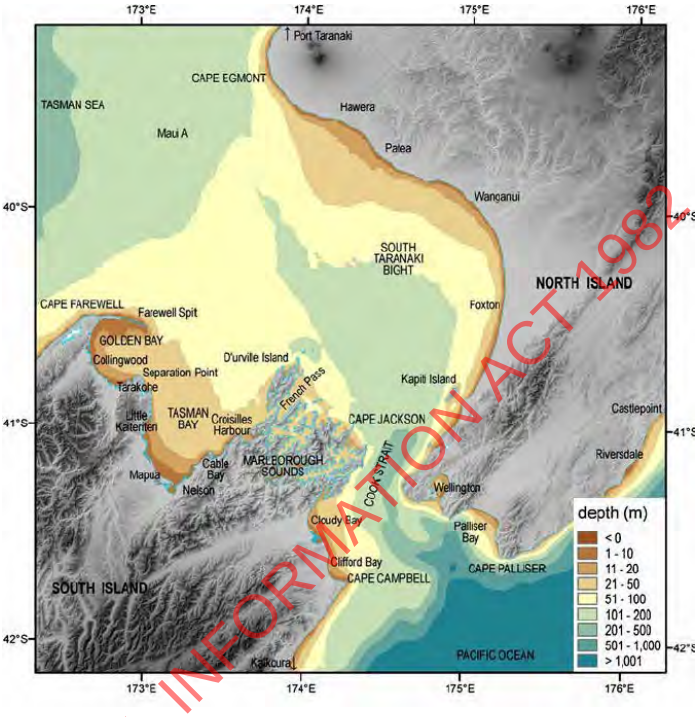

Image 3 : Waterdepth in Cook Straits

The presence of submarine cables adds to the complexity of maritime activities in the region. These cables, crisscross the strait, particularly between areas like Oteranga Bay on the North Island and Fighting Bay on the South Island. These zones are marked on nautical charts, and vessels are required to steer clear of them, which limits navigable waters also taking into consideration the anchoring and fishing grounds .

Strong tidal flows, influenced by the interaction of the Tasman Sea and Pacific Ocean, dominate the strait. Tidal currents often exceed 5 knots, particularly near narrow constrictions such as between Cape Terawhiti on the North Island and Arapawa Island on the South Island. These currents create turbulent eddies and overfalls, especially during spring tides. High winds and unpredictable weather are also a hallmark of the Cook Strait, with gale-force winds frequently funnelling through the channel due to the alignment of the surrounding landmasses.

Additionally, the rugged coastlines of the Cook Strait provide limited options for safe anchorage. Locations such as Queen Charlotte Sound and Wellington Harbour offer refuge but are distant from the central part of the strait. These physical and environmental characteristics make the Cook Strait a uniquely demanding maritime corridor.

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8.0 ETV UTILISATION

The primary requirement of an ETV is to stabilise a distressed vessel. Considering that the distressed vessel has loss of power or is unable to navigate, this can be achieved by connecting the tow line. This objective is highly time-sensitive, as the speed of mobilisation directly impacts the ability to prevent the situation from worsening.

To achieve this, the ETV must be equipped with adequate towing gear, including redundancy to address potential equipment failure. Additionally, the vessel should be sufficiently equipped with FiFi (Fire Fighting) capabilities, capable of delivering 1 FiFi (2400 m^3/hr of water) for boundary cooling in firefighting scenarios. Robust communication systems are also essential to coordinate with other response units, and the ETV must be prepared to provide immediate first aid for oil spill incidents that may be imminent or threatening, ensuring environmental risks are managed effectively.

Image 4 : Example of an ETV (209 T Bollard Pull) connecting emergency towing lines with a container ship 176900 Gross Tonnage Vessel (Overall length of 396 meters) as part of an exercise.

The secondary requirement, following the stabilisation of the distressed vessel, is to support salvage efforts. This may involve towing the distressed vessel to a designated place of refuge or providing other support services as required. These secondary operations depend on the nature of the incident and the condition of the distressed vessel but are critical for ensuring the incident is fully resolved. The ETV must maintain operational readiness throughout these efforts.

The ETV can also be equipped with modular maritime rescue devices for man-overboard recovery, enabling safe and efficient operations. These systems integrate with vessel cranes or davits, operate manually or hydraulically, and comply with SOLAS standards for use in various sea conditions. Compact and versatile, they improve safety by reducing the need for rescuers to enter the water, ensuring faster response times and higher survival rates. (See example of such a system below)

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Image 5 : Example of a Man Overboard Rescue Net system for recovery from Sea

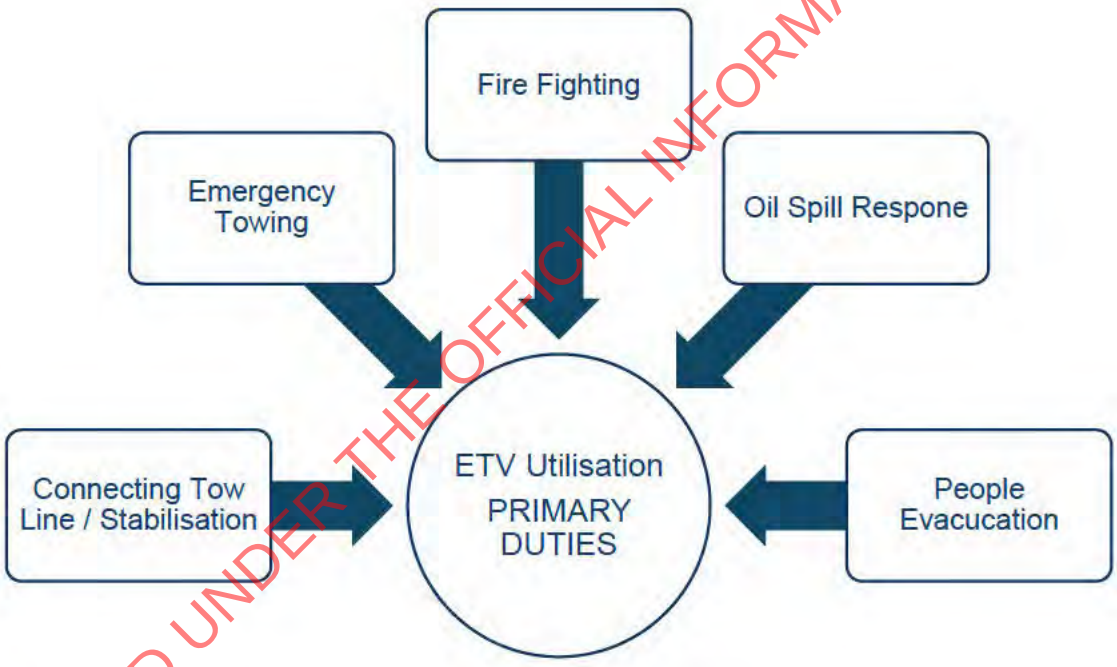

Illustration 6: Primary Duties of ETV

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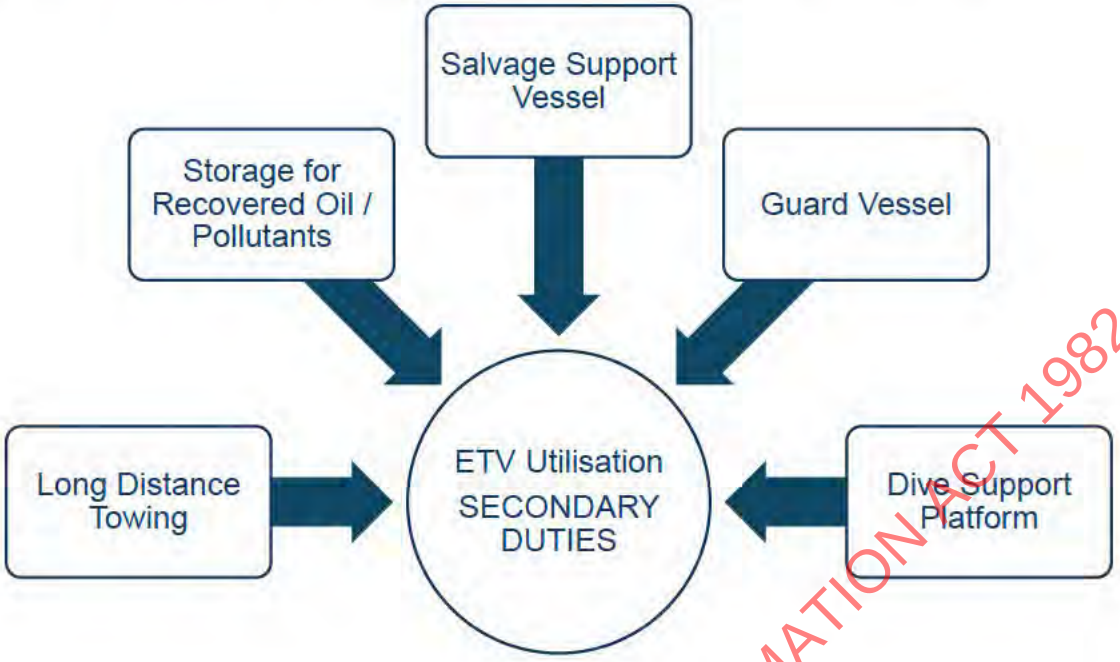

Illustration 7: Secondary Duties of ETV

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8.1 STABILISATION

As mentioned, the first scope of work for ETV is to establish a secure towing connection to stabilise the situation. This requires planning and the use of right equipment designed to handle the dynamic forces acting on the connection. Key considerations include ensuring the towing line is of adequate strength and length, selecting appropriate towing gear, and adhering to recognized guidelines such as DNV-ST-N001 for safe and efficient operations. The connection must account for environmental forces, such as wind, wave, and current, and distribute these loads effectively across the components.

The equipment required for emergency towing connections includes the towing line (wire or synthetic), a tow bridle, fairleads or chocks, shackles, and a towing winch. The towing bridle, typically configured as a triangular arrangement, connects to the vessel via smit brackets or similar hard points. Fairleads or chocks guide the towline and reduce friction, protecting any damage to the towline. Shackles are used at various junctions to connect components securely. The towing winch plays a critical role in controlling the tension and length of the towline, ensuring a safe distance is maintained between the vessels.

Technical specifications for standard towing must align with standards such as DNV-ST-N001, which provide detailed requirements for the strength and deployment of towing gear. For example, the towline's breaking load must exceed the calculated forces, and the apex angle for the bridal should ideally be between 45 and 60 degrees to distribute forces effectively. Emergency towing systems, including pennants, floating buoys, and recovery arrangements, should be pre-installed to allow rapid deployment in emergencies. A typical example of the towing connection is illustrated below.

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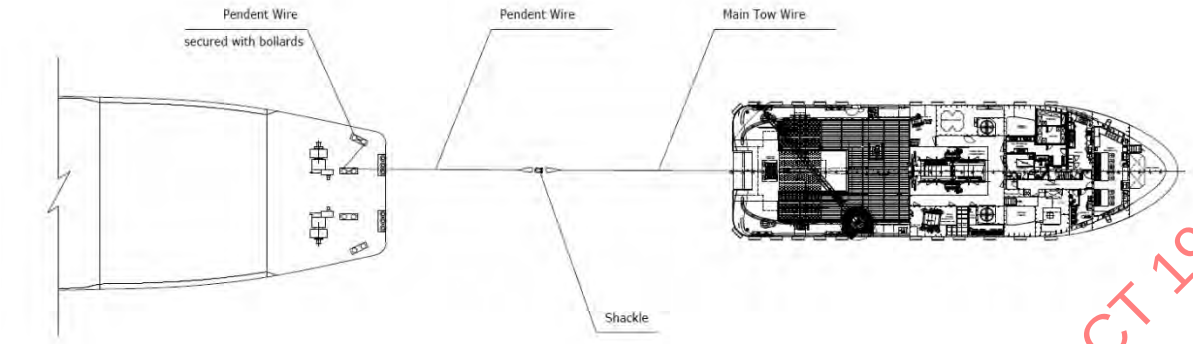

Image 6 : A single line towing connection (case study) for a Bulk Carrier aground in South East Asia

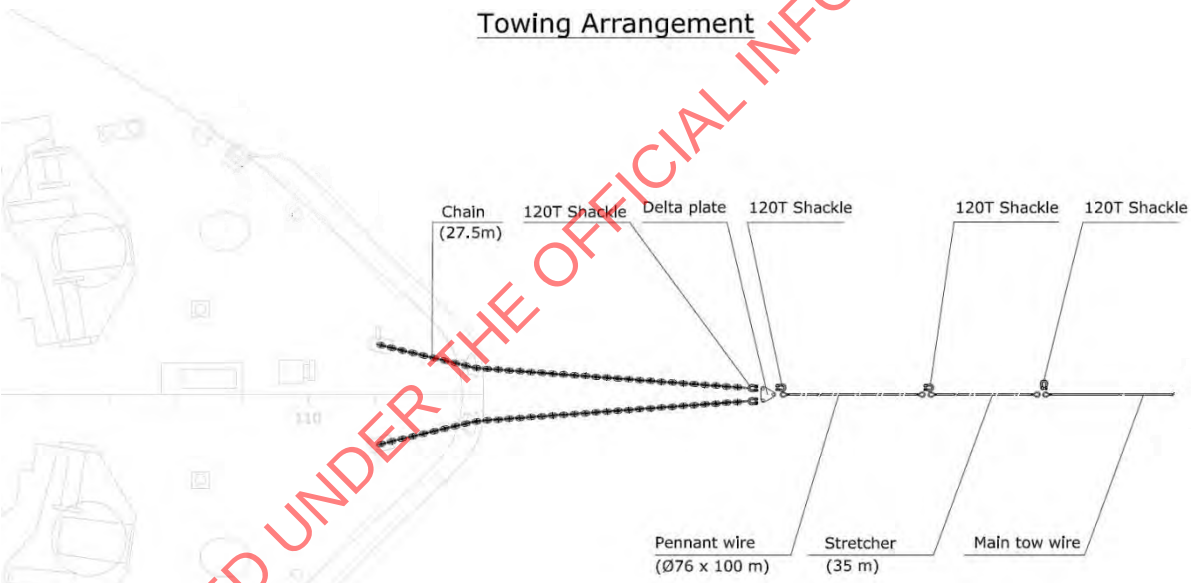

Image 7 : A towing connection example (case study) for a Very Large Crude Carrier (VLCC) after fire and losing power in the Indian Ocean.

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Connecting to a distressed vessel without an emergency tow line presents significant challenges, including the need for close-proximity manoeuvres in rough seas and the risk to crew safety during line transfer. The potential lack of suitable deck fittings (strong points) on the distressed vessel can further complicate these operations.

9.0 ETV CAPABILITIES

9.1 DNV GUIDELINES

The offshore industry standard DNV towage guidelines, for planned tows as per DNV-ST-N001, specify that the bollard pull for the tug, must be at least 1.5 times the total resistance of the towed object, including environmental forces, with safety margins for adverse conditions. Towlines must have a minimum breaking strength three times the maximum expected tension, and towing equipment must be load tested to 125% of their design working load. Recommended open ocean towing speeds are 6–8 knots, with a towline scope ratio of 1:10 in open waters for adequate catenary effects. Towing operations are generally restricted to a significant wave height of 2.5 meters and wind speeds below 25 knots unless mitigated. If sea conditions exceed these parameters, the towing vessel should adopt a holding pattern to prevent excessive strain on towlines and connections. Stability criteria require a minimum metacentric height of 0.5 meters for the towed object. These parameters ensure safe and efficient towage operations.

The DNV towage guidelines are intended for planned ocean-going tows under controlled conditions and serve as a reference for ensuring sufficient bollard pull. In emergency response scenarios, towing operations must account for significantly different challenges, including unpredictable weather and sea states.

9.2 DATA CAPTURING

To establish a workable framework for assessing emergency towing requirements, a dataset has been compiled comprising the largest vessels that have called at New Zealand's ports over the past three years (Jan 2021 to Nov 2024). The dataset includes two vessels from each primary maritime category—containers, bulk carriers, tankers, and passenger ships—providing a diverse foundation for analysis. By focusing on the upper range of vessel sizes, this selection ensures that the study addresses the maximum bollard pull and operational capability required by tugs for successful emergency towing, particularly during the initial connection and stabilisation phases.

For instance, tankers and bulk carriers in the dataset, with their large size and heavy weight, require higher bollard pull due to the significant resistance created by their hulls moving through water. This resistance increases further in challenging conditions, such as strong currents or wave drift forces. Similarly, passenger ships and large container vessels, which have tall structures and large surface areas exposed to wind, require better control during emergency towing. These ships are more affected by wind forces, making stabilisation critical to prevent uncontrolled movement.

The primary objective of this analysis is twofold: firstly, to simulate realistic emergency towing scenarios using the compiled vessel data, and secondly, to define the minimum bollard pull capacities that tugs must possess to manage first-strike towing effectively. By applying established bollard pull calculation methods and towing resistance models, the study aims to provide insights that will enhance the planning and deployment strategies for emergency towing operations.

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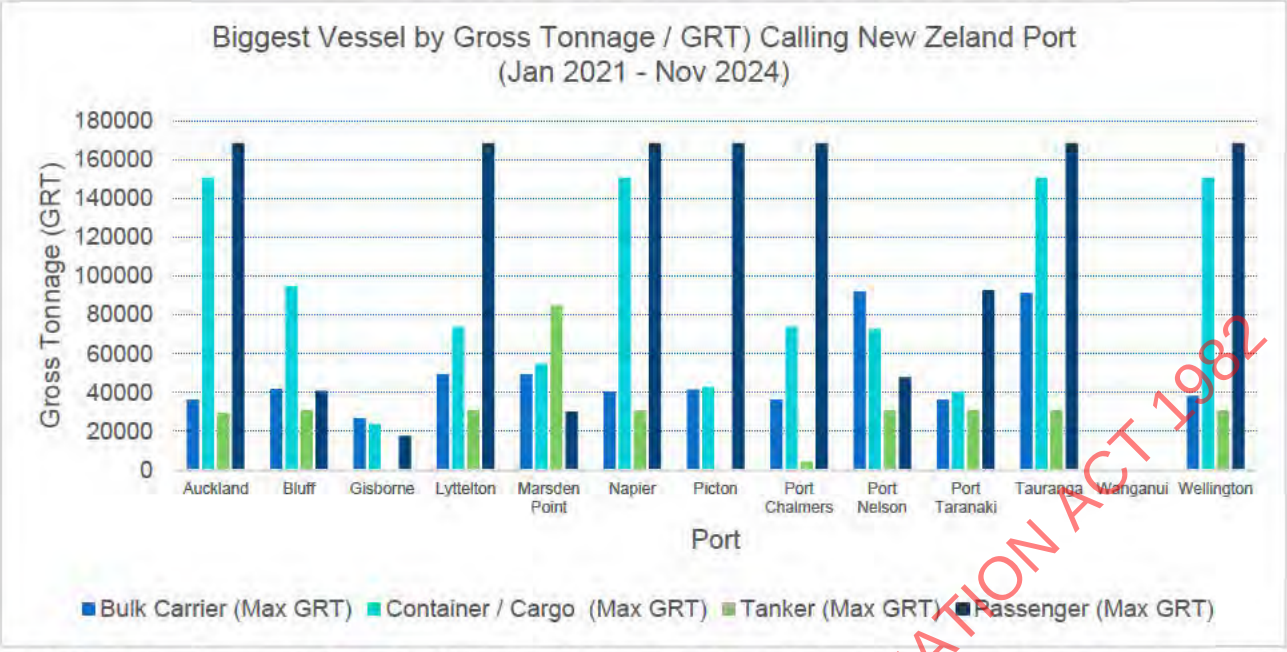

Illustration 8 : Graph representing the Biggest Ship (based on the Gross Tonnage) to enter New Zealand Ports between Jan 2021 to Nov 2024

Name	Vessel Type	Gross Tonnes (GRT)	Length Overall (m)	Breadth Moulded (m)	Maximum Draught (m)	Arrival Date
Taharoa Destiny	Bulk Carrier	90267	290.4	45	18.31	s 9(2)(ba)(i)
Cape Jasmine	Bulk Carrier	91349	292	45	18.32	
MSC Freya	Container Ship	150783	366	51	15.6	
Sovereign Maersk	Container Ship	92198	346.98	42.8	14.53	
Nicolaos	Crude Oil Tanker	84795	274.19	50.04	17.15	
Ephesos	Product Tanker	84851	274	50	17.15	
Diamond Princess	Passenger	115906	290	37.5	8.3	
Celebrity Edge	Passenger	130818	306	39	8.4	

Table 2: Names and particulars of some of the biggest ships to call into New Zealand in each vessel type from Jan 2021 to Nov 2024

To account for the influence of weather conditions on emergency towing operations, we analysed weather patterns for August and September 2023, using data recorded from ferries transiting the Cook Strait during this period. The first image illustrates the data points collected from these ferries under all weather conditions, while the second image focuses specifically on transits conducted during wind speeds corresponding to Beaufort Force 6 to 9.

This analysis highlights that ferry operations through the Cook Strait continue even in challenging weather conditions, with significant wind and sea state impacts. The findings emphasise the importance of considering such adverse weather scenarios in the planning and deployment of ETV. Any ETV operating in this region must be equipped to function effectively under these conditions to ensure reliable response capabilities during emergencies.

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Image 8 : Data from Passenger Vessels (including Ferries) during August & September 2023, during all weather conditions. (Beaufort State 1 – 9)

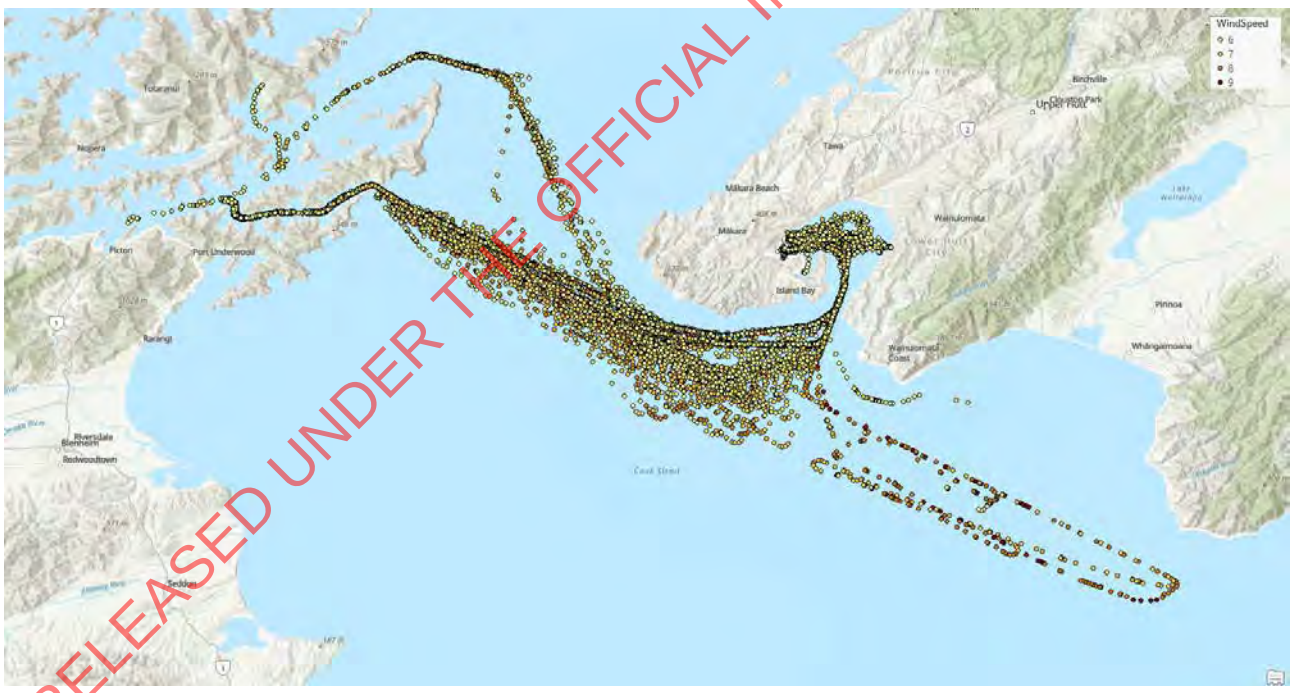

Image 9 : Data from Passenger Vessels (including Ferries) during August & September 2023, sailing in weather conditions beyond Beaufort 6 (Near Gale)

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9.3 BOLLARD PULL CALCULATIONS

A comprehensive analysis of bollard pull requirements for maintaining station and towing operations under varying environmental conditions has been conducted.

We have utilised the same list as referenced in Table 2, which highlights the largest tonnage vessels that have called at New Zealand for cargo operations and passenger cruises, to assess scenarios requiring emergency towing assistance. It must be noted that while precise bollard pull calculations necessitate detailed vessel-specific information, the values presented herein are estimates based on the general design parameters of the analysed vessels. These estimates provide a reasonable approximation of the actual bollard pull requirements and serve as a baseline for operational planning.

Vessel Name	Type	Bollard Pull (Hold Station) (40 kts, 5m Hs)	Bollard Pull (Hold Station) (30 kts wind, 4m Hs)	Bollard Pull (Towing 3 Kts) (25 kts wind, 3m Hs)	Bollard Pull (Towing 4 kts) (20 kts wind, 3m Hs)
Taharoa Destiny	Bulk Carrier	80.0	56.2	106.5	149.5
Cape Jasmine	Bulk Carrier	83.8	59.1	108.6	150.9
MSC Freya	Container	127.1	82.6	125.1	159.4
Sovereign Maersk	Container	116.0	77.1	104.0	128.9
Nicolaos	Tanker	80.9	57.3	110.0	155.4
Ephesos	Tanker	80.9	57.2	109.9	155.3
Diamond Princess	Passenger	124.6	79.9	81.2	85.6
Celebrity Edge	Passenger	125.3	80.5	82.0	87.3
Kaitaki	Passenger Ferry	64.9	42.7	38.2	40.8
MAXIMUM BOLLARD PULL		**127.1**	**82.6**	**125.1**	**159.4**

Table 3: Bollard Pull Summary for biggest ships in each sector calling New Zealand Ports

For holding station operations, the maximum bollard pull requirement under extreme environmental conditions, characterised by 40 knots of wind speed and a significant wave height (Hs) of 5 meters, is estimated at **127.1 tonnes**. This value corresponds to the container vessel **MSC Freya**, which, with a breadth of **51 meters** and a draft of **15.6 meters**, demands the highest pull among the assessed vessels. Under moderate conditions, defined by 30 knots of wind and 4-meter wave heights, the bollard pull requirement reduces to **82.6 tonnes**, also attributed to the **MSC Freya**. The large breadth and hull design of container vessels are major contributors to these heightened requirements.

For towing operations at a speed of 3 knots in conditions of 25 knots wind speed and 3-meter wave heights, the maximum bollard pull requirement is approximately **125.1 tonnes**, once again associated with the **MSC Freya**. At a towing speed of 4 knots under more favourable conditions, such as 20 knots wind speed and 3-meter wave heights, the estimated bollard pull requirement peaks at **159.4 tonnes**,

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the highest among all evaluated scenarios. The detailed Bollard Pull calculation for vessel **MSC Freya** can be found in the Appendices to this document.

Among vessel types, container ships consistently exhibit the highest bollard pull demands owing to their wide beam and hydrodynamic profile. Bulk carriers, such as the *Taharoa Destiny* and *Cape Jasmine*, require relatively lower bollard pulls for station-keeping; however, their towing resistance increases significantly at higher speeds due to their substantial displacement and hull form. Passenger vessels, despite their size, demonstrate comparatively lower resistance during towing operations in moderate environmental conditions.

These findings underscore the necessity of matching tug capabilities with the operational demands of different vessel types under a variety of environmental conditions. While these estimates provide a technical benchmark, a precise determination of bollard pull requirements must account for vessel-specific characteristics, including hull design, displacement, and environmental loading factors.

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10.0 ETV OPTIONS

10.1 HARBOUR TUGS

A harbour tug is a specialised vessel designed for assisting larger ships in docking, undocking, and navigating confined or congested waterways. These vessels are generally compact, ranging from 20 to 36 meters in length, and are equipped with high-powered propulsion systems to generate substantial thrust for precise manoeuvring.

10.1.1 DESIGN AND PROPULSION SYSTEMS

Harbour tugs are categorized by their propulsion systems, which provide exceptional manoeuvrability and control. The most common designs include:

- **Azimuth Stern Drive (ASD):** These tugs have steerable propulsion units (Z-drives) located aft, capable of 360-degree rotation. This system allows for rapid changes in thrust direction, making the vessel highly manoeuvrable.
- **Tractor Tugs:** Equipped with Voith Schneider Propellers (VSP) or Z-drives positioned forward, these tugs excel in ship-assist operations by providing strong lateral forces and precise handling.
- **Rotor Tugs:** Featuring three Z-drives in a triangular configuration, they offer enhanced stability and control during complex manoeuvres.

Image 10: ASD Tug Propulsion

Image 11: Tractor Tug with VSP

The propulsion systems of these tugs often incorporate Kort nozzles, which improve thrust efficiency by channelling water flow through a foil-shaped casing around the propeller.

10.1.2 TOWING GEAR AND WINCHES

Harbour tugs are equipped with advanced towing gear, including high-capacity winches designed for heavy loads. The winches are typically:

- **Electric or Hydraulic Winches:** Used for deploying and retrieving towlines with precision. These winches are often fitted with tension-monitoring systems to ensure safe operations under varying load conditions.
- **Render-Recovery Winches:** Allow automatic adjustment of towline tension to maintain stability during ship manoeuvres. The towlines themselves are constructed from high-strength synthetic materials or steel wire to withstand the significant forces encountered during operations.

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10.1.3 OPERATIONAL STRENGTHS

Harbour tugs are known for their strengths in manoeuvrability and power. Their propulsion systems, combined with a compact hull design, enable them to operate effectively in tight spaces and respond quickly to directional changes. The high bollard pull capacity of an 85-tonne harbour tug in theory provides sufficient power to Stabilise a vessel similar to the Interisland Ferry, even in challenging conditions such as strong currents or wind.

10.1.4 LIMITATIONS

Despite their strengths, harbour tugs have inherent limitations. Their compact design results in small deck space, which restricts the storage of additional equipment, fuel, water or accommodation for larger crews required for longer tow passages. Furthermore, their size of less than 40 meters makes them less suitable for open-sea operations or navigation in severe weather conditions, where seaworthiness is critical.

10.1.5 USE IN EMERGENCY STABILISATION

An 85-tonne bollard pull harbour tug is potentially within limits for stabilising a distressed vessel by rapidly connecting a towline and applying controlled force to counteract drift or external forces. However, for extended emergency operations, the tug's limitations, such as its small deck space and crew capacity, must be accounted for in response planning. Its design is optimised for short-term, high-precision tasks in sheltered or semi-sheltered waters rather than prolonged offshore missions.

10.1.6 EXAMPLE OF HARBOUR TUG

Name:	s 9(2)(j)
Length Overall:	33 meters
Breadth Moulded:	12.20 meters
Design Draft:	4.23 meters
Bollard Pull:	70 T

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10.2 ANCHOR HANDLING TUGS

There are two variations of Anchor Handling Tugs, generally referred to as Anchor Handling Tug (AHT) and Anchor Handling Tug Supply (AHTS) Vessel.

The primary distinction between an AHT and an AHTS vessel lies in their roles and functional capabilities. An AHT is primarily designed for anchor handling and towing operations, focusing on deploying and managing anchors for offshore platforms or rigs, as well as towing floating structures and assisting in rig movements. However, it has limited cargo-carrying capacity and does not provide the supply functions typically associated with an AHTS.

On the other hand, an AHTS combines the anchor handling and towing capabilities of an AHT with the additional functionality of a supply vessel. It is equipped with larger deck space and facilities to transport essential supplies, such as drilling equipment, fuel, water, and other materials, to offshore installations. AHTS vessels are also fitted with advanced propulsion systems, dynamic positioning (DP) capabilities, and high-capacity winches, enabling them to handle more complex offshore operations. These features make AHTS vessels more versatile and suitable for a wider range of offshore support roles compared to AHTs.

10.2.1 DESIGN AND PROPULSION SYSTEM

Anchor Handling Tugs are typically larger and sturdier than harbour tugs, with designs optimized for open-sea operations. Their hulls are constructed for high stability and durability, allowing them to operate in rough weather conditions and heavy seas. Most AHTs use advanced propulsion systems to maximize manoeuvrability and power, including:

- **Azimuth Stern Drive (ASD)**: Features Z-drives located at the stern, providing 360-degree rotation for precise handling and powerful thrust.
- **Twin-Screw Propulsion**: Equipped with twin-screw propellers often enclosed in Kort nozzles to improve thrust efficiency and enhance towing capacity.
- **Dynamic Positioning Systems (DP)**: Many modern AHTS incorporates DP for maintaining position during anchor handling or station-keeping operations.

The deck area on AHTs is reinforced and designed to accommodate heavy anchor handling equipment, ensuring safe and efficient operations.

10.2.2 TOWING GEARS AND WINCHES

Anchor Handling Tugs are equipped with towing and anchor handling gear to manage extreme loads. Key components include:

- **Anchor Handling Winches**: These heavy-duty winches are capable of handling loads exceeding the vessel's bollard pull. They are fitted with high-torque motors and render-recovery systems to manage dynamic tensions during anchor deployment or retrieval.

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- **Towing Winches**: Separate from anchor handling winches, towing winches provide controlled towing force for moving platforms, rigs, or distressed vessels.

- **Stern Rollers**: Large rollers mounted at the stern facilitate the smooth handling of heavy anchors or towing cables, reducing wear and tear on both the equipment and the deck.

- **Shark Jaws and Towing Pins**: These systems secure chains or cables during operations, preventing slippage and ensuring stability during high-load tasks.

10.2.3 OPERATIONAL STRENGTHS

AHTs are highly valued for their operational versatility and power. Their strengths include:

- **Deck Capacity**: Spacious and reinforced decks accommodate heavy equipment, anchors, and cables, enhancing operational efficiency.

- **Adaptability**: AHTs can perform multiple roles, from towing and salvage to supporting offshore construction and laying anchors.

10.2.4 LIMITATIONS

Despite their strengths, AHTs have certain limitations:

- **Size and Draft**: The larger size and deeper draft may restrict operations in shallow waters or confined spaces.

- **Fuel Consumption**: Fuel consumption in AHT vessels varies significantly depending on a range of factors, particularly when the vessel is not engaged in towing or anchor-handling operations. The machinery configuration—whether diesel-electric or main engine (direct-drive)—plays a crucial role in determining fuel efficiency. Additionally, the vessel's maintenance condition, the age of its engines, and the specific type of propulsion system used are critical influences. Operational scenarios such as dynamic positioning, standby, or transit without load also introduce variability in fuel consumption patterns, as these modes demand differing power levels and efficiencies from the propulsion systems. From our operational experience, AHT vessels consume anywhere between 5 tonnes to 20 tonnes of fuel per day when steaming without any towing or anchor-handling load. Diesel-electric systems, due to their ability to operate only the required number of generators, tend to consume less fuel during transit or low-power operations. In contrast, direct-drive systems may consume more fuel under similar conditions due to inefficiencies at partial loads. These estimates highlight the importance of considering engine type and operational profile when assessing fuel consumption and overall operational costs.

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10.2.5 USE IN EMERGENCY STABILISATION

In emergency scenarios, a 100-tonne bollard pull AHTS is well-suited to Stabilise and secure distressed vessels or structures. Its powerful winches and high bollard pull allow it to tow large casualties or hold them in position against strong currents and winds. The reinforced deck and advanced equipment, such as shark jaws and towing pins, enable secure connections to towlines or anchor chains. These features make AHT indispensable for complex offshore salvage or emergency towing operations, particularly in challenging weather and sea conditions. However, the vessel's limitations in manoeuvring in tight spaces and its operational costs must be considered during response planning.

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10.3 INFIELD SUPPORT VESSEL (ISV)

10.3.1 DESIGN AND PROPULSION SYSTEM

Hull and Stability: ISVs are designed with reinforced hulls to withstand harsh offshore conditions, providing stability and safety for extended operations. Their robust design allows them to perform tasks like anchor handling, towing, and supply transport in challenging environments.

Propulsion Systems: Most ISVs are equipped with ASD propulsion systems or twin-screw configurations. These systems provide 360-degree rotational thrust for enhanced manoeuvrability and precise control. Many vessels also incorporate dynamic positioning systems (DPS), which maintain the vessel's station even in rough seas, enabling efficient operations near offshore installations.

10.3.2 TOWING GEARS AND WINCHES

- **Anchor Handling Winches:** ISVs feature heavy-duty anchor handling winches capable of managing large loads, often exceeding the bollard pull of the vessel. These winches are equipped with render-recovery systems to adjust line tension automatically, ensuring stability and safety during operations.

- **Towing Winches and Deck Equipment:** Separate towing winches provide controlled force for moving rigs or platforms. These are complemented by towing pins and shark jaws, which secure cables and chains during towing operations. Stern rollers are installed to facilitate the smooth handling of heavy equipment and reduce wear and tear on both the deck and cables.

- **Deck Space and Load Capacity:** The spacious and reinforced deck of ISVs supports diverse payloads, including containers, pipes, and specialised equipment, making them versatile for various offshore tasks.

10.3.3 OPERATIONAL STRENGTHS

- **Versatility:** ISVs are highly adaptable, performing a wide range of tasks, such as towing, anchor handling, cargo transport, and emergency response. Their multipurpose nature allows them to support construction, maintenance, and salvage operations.

- **Advanced Systems:** Dynamic positioning systems and advanced propulsion enable precise station-keeping and handling, even in strong currents and rough seas. The firefighting and oil spill response capabilities enhance their readiness for emergencies.

- **Logistical Support:** The ability to transport diverse equipment and supplies makes ISVs essential for supporting offshore installations and ongoing projects.

10.3.4 LIMITATIONS

- **Operational Costs:** High fuel consumption and the need for specialised equipment and trained crew increase operational costs, particularly for long-term deployments.

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- **Generalist Design:** While versatile, ISVs may not match the efficiency of vessels specifically designed for single roles, such as dedicated anchor handling or supply operations.

10.3.5 USE IN EMERGENCY STABILISATION

ISVs in theory should excel in emergency scenarios, providing immediate support by towing and securing distressed vessels or installations. Their powerful winches and bollard pull ensure they can handle large casualties effectively. Equipped with firefighting systems and oil spill containment gear, ISVs can respond quickly to environmental hazards, preventing escalation and minimizing damage. Dynamic positioning and robust towing gear allow ISVs to operate effectively in adverse conditions, stabilising emergencies and providing critical support during offshore incidents.

10.3.6 EXAMPLE OF ISV

Name:	s 9(2)(j)
Length Overall:	46 meters
Beam:	16 meters
Design Draft:	7.83 meters
Bollard Pull:	100 T

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11.0 COMMERCIAL OPTIONS

Harbour Tugs, AHTS, and ISVs: Charter, New Build, or Resale Options

When selecting a vessel for maritime operations, three key acquisition models are available: **Charter**, **New Build**, and **Resale Purchase**. Each option offers distinct advantages and considerations depending on operational needs, financial planning, and project timelines.

11.1 CHARTER HIRE

Chartering provides a flexible and cost-efficient solution for short-term or project-specific needs, with benefits including:

- **Quick Availability:** If available in the marketplace, vessels can be mobilised rapidly, often within days or weeks, reducing lead times.
- **Reduced CAPEX:** Avoids the larger upfront investment.
- **Operational Flexibility:** Ideal for handling peak demand, temporary surges, or specialised tasks such as offshore rig towing, anchor deployment, or emergency response.

Charter terms range from short-term daily or monthly agreements to long-term contracts (e.g., BIMCO Supplytime 2017).

11.2 NEW BUILD

Investing in a newly constructed vessel allows full customisation to meet specific operational requirements, such as:

- **Advanced Technology:** Incorporates features like DPS, hybrid propulsion, or compliance with the latest environmental standards (e.g., MARPOL Annex IV).
- **Enhanced Capabilities:** Designed for higher bollard pull, specialised towing, or energy efficiency.
- **Ownership Benefits:** Ensures complete control over scheduling, operations, and modifications.

However, this option requires **high CAPEX** and a **long lead time** (typically 12-36 months), making it suitable for operators with long-term, predictable demands.

11.3 RESALE PURCHASE

Acquiring a second-hand vessel strikes a balance between cost and availability, offering:

- **Lower CAPEX:** More affordable than new builds, though likely with higher ongoing OPEX.
- **Quicker Availability:** Depending on market conditions, resale vessels can potentially be operational within months.
- **Proven Performance:** Established operational history can provide confidence in reliability.

Due diligence is critical to assess vessel condition, remaining lifespan, and compliance with regulatory standards (e.g., Maritime Rule Part 199 - Prevention of Air Pollution). Older vessels may require upgrades to meet safety, environmental, or operational requirements.

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Each acquisition model offers unique benefits. Chartering suits short-term or fluctuating demands, new builds cater to operators seeking tailored, long-term solutions, and resale purchases balance affordability with quicker deployment for immediate operational needs.

11.4 OPERATIONAL COSTS

Some initial Basic Operational Cost Modelling has been undertaken in the limited time available.

This has focused on a theoretical, less than 5-year-old, 65-meter AHTS Vessel of 8,000 - 9000 Bhp and 90 - 100 tonnes Bollard Pull. The capabilities are alinged with the technical requirement of a Strike 2 vessel.

Indicative and estimated prices for such vessels are as follows:

New Build

5 – 10 years resale

10+ years resale

s 9(2)(j)

Note that this required further validation as very limited numbers of such vessels have been ordered or delivered in the last 8 years.

This modelling so far undertaken is indicative and approximate but has been based on direct experience of operating such vessels in similar operating environments. Further validation work is required once a specific vessel type/design has been finalised

From this initial review, estimated expected Annual Operational Cost would be as follows

Manning – 12 Person Crew s 9(2)(j) NZD Estimated Annual Cost

Vessel Operational Cost s 9(2)(j) NZD Estimated Annual Cost

Note: the following Costs have been excluded from the above

- Finance & Depreciation Costs. This is highly dependent on the status of the vessel (eg New Built, second hand etc) and finance model.
- Vessel Mobilisation/Demobilisation Costs. This can be significantly different depending on where the vessel is mobilized from.
- Consumables (including Fuel, Water). Fuel costs are extremely variable depending on the size and engine type. Further detailed analysis will be required on proposed vessels.
- Management Overhead Costs. Technical superintendency have been excluded but should not be discounted. This should be developed and finalized prior to the selection of the asset.

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12.0 COMMERCIALISATION OPPORTUNITIES - OVERVIEW

Provision of ETV Services is likely to be an expensive proposition, due to the cost of acquiring, operating and maintaining the Capability.

Therefore, it is sensible to consider a blended 'ETV+Commercial Usage' Model for provision of such services.

This approach has considerable benefit and features the following Key Advantages

a. Cost Offset to Crown, while providing Key ETV Capability

b. Commercially Viable Business for Operator

c. Provide Gainful Employment for the Vessel(s) to ensure ongoing reliability and crew familiarisation

The Australian Maritime Safety Authority (AMSA) has been contracting an ETV from Industry on a long term basis, to provide Emergency Towage in the Torres Strait and Great Barrier reef area since 2009.

This arrangement requires a dedicated ETV to be ready to act and intervene if so, required on behalf of AMSA in Emergency events involving disabled vessels or otherwise as required by AMSA.

When not utilised in the Emergency Role, the vessel is normally available to provide Aids to Navigation Maintenance and Repair services in the area on a commercial basis via a subcontractor to AMSA. AMSA sets specific contractual KPIs for the performance of the vessel.

This arrangement has proven to be successful over the last 15 years and provides a cost effective and efficient means of providing Emergency Towage services in an environmentally sensitive part of the Australian Coastline through which numbers of Commercial Vessels are trading.

A variation of this model would be a potentially effective means of providing ETV services in a Commercially balanced manner, to provide best value to the New Zealand Taxpayer.

In a similar manner to the above, there are several potential means of providing a viable New Zealand ETV Capability while also being potentially utilised on a Commercial basis. These concepts are listed below in relation to the 1st and 2nd Strike methodology and are not in any order of preference, nor are they necessarily exhaustive. However, it is suggested that they would form a useful basis for commercialisation of an ETV capability in New Zealand.

12.1 1ST STRIKE – COMMERCIALISATION OPPORTUNITIES

The Cook Strait between North and South Islands of New Zealand is an area that is known for very challenging weather and sea conditions throughout the year. There is considerable cross-strait ferry traffic together with regular transits of the Cook Strait by many other vessels ranging from small pleasure Yachts through to large Commercial Vessels such as Cruise Ships, Container Vessels and Bulk Carriers.

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Therefore, the Cook Strait does carry an increased potential for a Marine incident to occur, particularly noting the regular ferry traffic and recent incidents involving those vessels.

Accordingly, it is prudent to consider a '1st Strike' ETV capability positioned in the Cook Strait, close to the areas of highest risk and maximum traffic. It must be noted that provision of an ETV will not remove the potential for a major incident to occur, however it would offer a much higher probability of being able to intervene in such an incident.

Primarily the 1st Strike ETV would be setup for connecting to a disabled vessel and would be sized and powered to ensure that it had sufficient capability to Tow effectively and where so required.

To ensure that this 1st Strike ETV would be able to respond to an incident, it should be manned, maintained and fuelled to be able to provide an immediate capability within a short time frame. It would therefore be important for such an ETV to have a 'day to day' role in addition to its core ETV capability.

This would ensure that the ETV is maintained in an effective operable state, with an experienced and familiar crew.

Such 'non ETV' duties for the 1st Strike ETV to operate in the Cook Strait are potentially as follows;

s 9(2)(b)(i), s 9(2)(j)

[redacted]

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s 9(2)(ba)(i), s 9(2)(j)

[redacted]

12.2 2ND STRIKE – COMMERCIALISATION OPPORTUNITIES

In a similar manner to the ETV operated for AMSA, there is potential for the 'Strike 2' ETV to be used to support Maintenance of Buoyage / Aids to Navigation, or other ancillary duties as detailed below. In addition, such a vessel would be well suited to deploying Oil Spill response capability in support of MNZ when not engaged in ETV operations.

12.2.1 AIDS TO NAVIGATION MAINTENANCE / DISASTER RELIEF / OIL SPILL RESPONSE / OUTLYING ISLANDS SUPPLY

- This Vessel could also provide a Disaster / Emergency Response platform for tasking to major incidents in the wider EORC context, providing a useful a value-added capability to support both Emergency Towage and other Emergency/Response activities for the NZ Government.

- Furthermore, it would be able to utilise this vessel for ad hoc activities such as supplying outlying islands (Chatham Islands) when other vessels were unavailable. The ETV would be effectively a 'Swiss Army Knife' multitool that would be very useful in support of many key operations.

s 9(2)(ba)(i), s 9(2)(j)

[redacted]

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s 9(2)(ba)(i), s 9(2)(j)

[redacted]

12.2.3 MILITARY SUPPORT

- As detailed above, the 2nd Strike ETV would offer a potential opportunity to undertake Military Support operations, including Diving Support, Hydrographic Survey, Fishery Protection, Emergency & Disaster response.

- This would utilise a 'Lean Manned' Civilian Crewed ETV which would be able to also provide an economic and capable platform to the RNZN for non-warfighting duties as detailed above.

- Naval personnel would be embarked for the operations to be undertaken, but the vessel would normally be manned and operated as a civilian vessel in a similar manner to the Royal Australian Navy (RAN) Support Vessels and UK Royal Fleet Auxiliary. This model has worked well especially for the RAN and enables a very flexible capability at limited additional cost.

- Furthermore, if carefully specified this option could include a useful platform in support of an interim RNZN Diving capability if Dynamic Positioning was to be fitted. Many commercial Offshore Support Vessels are now DP Class 2 and can be mobilised to support subsea activities at short notice when required.

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12.2.4 PROVISION OF TRAINING BERTHS FOR NEW ZEALAND SEAFARERS

- New Zealand is a Maritime Nation, and continues to rely on maritime skills from Seafarers on its coastal Shipping, and in related roles such as in Maritime New Zealand, Harbour Masters, Marine Pilots, Maritime Insurance, Marine Engineering to name a few. The average age of these key personnel is increasing and in many cases they are approaching retirement.

- The current pipeline for future NZ Seafarers is currently extremely limited, due to a very small New Zealand Merchant Fleet and limited opportunities for young people entering the industry to accumulate sufficient sea service on appropriate vessels.

- With appropriate input from the MNZ Certification Team, the provision of ETV's therefore provides an excellent opportunity to offer a number of training berths to Trainees and Cadets who require such qualifying sea-time to obtain their first Certificates of Competency. This would provide an excellent pathway for these candidates to enter the Maritime industry and ultimately support New Zealand in its Maritime future.

s 9(2)(j)

[redacted]

s 6(a)

[redacted]

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12.3 CONTRACT / CHARTER PARTY

The Maritime industry today has well developed standard Charter Parties (Contracts) for many activities and types of operations. The words 'Contract' and 'Charter Party' can be used interchangeably.

Specialist Offshore support Vessel owners will generally prefer to use a risk share approach to marine contracting, with 'Mutual Hold Harmless' provisions integrated – meaning that the proposed operation will be simple and quick to Insure.

These vessels are usually offered subject to availability and subject to Contractual agreement. Often, the Vessel will be offered subject to a 'BIMCO Supplytime 2017' based time Charter Party.

This is a well-known and easily understood Charter Party developed over many years by the BIMCO committee (comprising Charterers, Vessel Owners and Lawyers) for Vessels working in the specialist Offshore Vessel Industry, supporting Energy Exploration and Development.

This approach allows simple and well understood principles to be applied around Insurance, Operational and Legal aspects, keeping cost and risk at equitable and pragmatic levels.

This is potentially an excellent starting point for an ETV Time Charter Party, with logical amendments for the specifics of the Charter.

Alternatively, MNZ may choose to setup a specific Charter Party for this ETV Contract. However, this will take considerable time and negotiation with Owners to arrive at a mutually acceptable (and insurable) Contract.

s 9(2)(g)(i) [redacted]

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13.0 ABL RECOMMENDATION

13.1 CAPABILITIES

A dual-tiered emergency towing system is proposed to meet the requirement of keeping the Navigable waters safe in New Zealand. This configuration ensures that both localised and regional maritime incidents are effectively managed:

Strike 1: A locally stationed ETV for immediate stabilisation and response to distressed ships in the Cook Strait. This vessel will address urgent scenarios such as loss of propulsion or potential groundings.

Strike 2: A regionally based ETV capable of long-range towing and complex salvage operations. This vessel provides secondary support and extended operational capability for larger or offshore incidents.

13.2 TYPE OF VESSELS

13.2.1 STRIKE 1: LOCAL DEPLOYMENT

Bollard Pull: Minimum 85T to handle nearshore stabilisation and towing under harsh weather conditions.

Specifications:

- Length: ~40 meters for enhanced stability in rough seas.
- Highly maneuverable to operate within confined channels and harbour limits.
- Dual winches with Dyneema and steel wire ropes for diverse towing needs.
- Firefighting capacity of 1200 m^3/hr (0.5 FiFi unit).
- Accommodation for a crew capable of 24-hour operations.
- Fuel capacity sufficient for at least three days of continuous operation without refueling.

Role: Acts as support tug to Stabilise the situation, by passing on the tow line, making the connection and ensuring that distressed vessel is away from all navigable dangers.

13.2.2 STRIKE 2: REGIONAL AND OFFSHORE DEPLOYMENT

Bollard Pull: Minimum 100T to hold or tow larger vessels and manage offshore incidents. However in order to future proof larger tonnage that calls New Zealand in the future we would like to recommended a vessel in line with AMSA's approach of 120 T BP tug.

Specifications:

- Deck Space: Over 300 m^2 to accommodate equipment such as oil spill response kits (2x20' containers).
- Double-drum winch system for increased operational redundancy.
- Firefighting capacity of 2400 m^3/hr (1 FiFi standard).
- Accommodation for 15 spare bunks (in addition to the required crew members) for extended use (example, accommodation for salvage team etc).

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- Fuel endurance to support a 30-day towing operation without refueling.

Role: This vessel provides extended towing, salvage, and environmental response capabilities, supporting larger vessel emergencies outside Cook Strait.

13.3 STANDBY LOCATIONS

Strike 1: Based in Wellington for rapid response to incidents in Cook Strait and adjacent regions.
Strike 2: Based in a major port in North Island to ensure readiness for regional emergencies and offshore operations.

13.4 EFFECTIVE TOWING PLAN

Drawing on towing insights and best practices, the proposed towing plan incorporates operational redundancy and adaptability:
Incident Stabilisation (Strike 1):

- Deploy Strike 1 ETV for immediate stabilisation of the vessel.
- Utilise forward and aft towing winches to maintain vessel orientation against prevailing winds and currents.
- If necessary, anchor the distressed vessel at a designated safe zone within Cook Strait.

Extended Operations (Strike 2):

- Activate Strike 2 ETV for long-range towing to a designated safe harbour or repair yard.
- Equip the vessel with salvage and firefighting kits for multi-functional response.
- Conduct ongoing communication and coordination with local authorities and salvage teams.

Weather Mitigation:
Prioritise vessel design for high seaworthiness in Cook Strait's challenging conditions, including reinforced hulls and advanced navigational systems.

13.5 MAKING A TOWING CONNECTION WITH A DISTRESSED VESSEL

The most critical aspect of any emergency towing scenario is establishing a safe and efficient physical connection between the ETV and the distressed vessel. Distressed vessels typically fall into two categories:

(A) Vessels Trading Regularly in a Specific Area. These vessels are often equipped with emergency towing gear that can be rapidly deployed to facilitate a quick connection to a tug or ETV. For instance, it is recommended that ferries operating in the Cook Strait are outfitted with such equipment to enhance response times during emergencies.

(B) Other Vessels. Vessels not equipped with permanent emergency towing gear require alternative methods for establishing a connection, which can be less efficient and more time-consuming.

Various methods can be employed to establish a connection, including but not limited to:

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1. **Helicopter Transfer** of a light messenger line to the distressed vessel.
2. **Rocket Line Thrower** for deploying a light messenger line.
3. **Hand Line Transfer** from the ETV to the distressed vessel.
4. **Floating Mooring Lines** to be recovered by the ETV using a grappling hook.
5. Deployment of the distressed vessel's anchor, with the ETV using a grappling hook or J-hook to establish a temporary connection until a robust towline can be secured.

In cases falling under Category B, except for method (5), a messenger line is first passed between the ETV and the distressed vessel, which is then used to establish a stronger tow connection. This process is complex and requires significant experience to execute safely.

In challenging situations, deploying trained and experienced personnel directly to the casualty (likely via helicopter) can significantly enhance the efficiency and safety of the operation. Developing and implementing this capability is strongly recommended to improve overall emergency response effectiveness.

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14.0 SUPPORT SYSTEM

14.1 SHIPYARDS

While undertaking this technical study, it became evident that there is a significant shortage of shipyard facilities in New Zealand. In the event of a distressed vessel requiring repairs, the absence of local repair facilities capable of accommodating large vessels necessitates long-distance towing to facilities outside the country.

The regular maintenance of Strike 1 and Strike 2 vessels may have to be carried out outside New Zealand, a factor that must be considered when evaluating the viability of single-strike versus double-strike capabilities. Maintenance scheduling, particularly the planned docking required every five years for compliance with international regulations, ensures the integrity and functionality of critical systems, including hull structure, propulsion systems, and safety equipment.

14.2 VTS/VTMS SYSTEM

Vessel Traffic Services (VTS) and Vessel Traffic Management Systems (VTMS) are critical tools for maritime navigation safety, offering real-time monitoring and control of vessel movements within designated areas. VTS primarily functions as a traffic organization service, whereas VTMS extends this capability with integrated management features, including data analytics and advanced decision support systems. These systems play a pivotal role in high-traffic areas like the Cook Strait, where accurate vessel monitoring is essential to ensure navigational safety and efficiency.

Image 19 : Vessel Traffic Management System in Singapore (Image Courtesy MPA, Singapore)

Modern VTS/VTMS implementations often leverage geofencing technology. Geofencing enables the creation of virtual perimeters for specific geographic areas, allowing for the detection and tracking of vessels entering or leaving these zones. For instance, if a vessel deviates from a designated safe passage in the Cook Strait, the system can trigger alerts, signalling a potential risk of grounding or collision. This early warning capability is essential for rapid response and risk mitigation.

The integration of newer technologies has significantly enhanced the flow of information within VTS/VTMS. Advances in satellite communications, AIS (Automatic Identification System) data processing, and machine learning algorithms enable operators to predict vessel movements and potential hazards with greater accuracy. For emergency scenarios, such as deploying an ETV, these technologies facilitate real-time data sharing and coordination among stakeholders, thereby reducing response times and improving the effectiveness of intervention strategies.

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VTMS can provide enhanced situational awareness and predictive capabilities, which can be implemented for operational effectiveness in an emergency / distress situation.

14.3 TRAINING & SIMULATORS

The training for tug crews engaged in ETV operations should build on precise standards to ensure competency in high-risk scenarios. Anchor handling and emergency towing operations demand a multi-faceted skill set, particularly under adverse high-seas conditions.

Crew members should be extensively trained in deploying emergency towing equipment, including towlines, emergency towing-off pennants (ETOPs), and winch systems. This should include simulated high-seas exercises to replicate real-world conditions. Skills such as precise positioning for tow attachment and managing dynamic loads during towing should be emphasized. for AHTS, familiarity with hazards associated with anchor handling and towing operations is critical. Trainees should understand hydrodynamic forces, the risks of capsize or structural failure under tension, and mitigation strategies during equipment failures.

Additionally, communication protocols with bridge and shore-side authorities should be drilled extensively. Simulation drills should cover adverse scenarios such as line breakages, sudden shifts in weather, and operational constraints, ensuring crews are prepared for unpredictable conditions.

Image 20: Simulator Training for Anchor handling operations

Competency in high-seas ETV operations should depend on rigorous, repetitive, and standardised training. This preparation should not only ensure crew safety but also minimise environmental risks and potential damage to assets. By adhering to established guidelines and maintaining operational readiness, tug crews should form the backbone of successful emergency towing missions, safeguarding maritime environments and human life.

14.4 REGULATIONS RELATING TO VESSEL TRANSITING COOK STRAITS

In compliance with international maritime safety standards, tankers operating in U.S. waters are mandated to be equipped with robust emergency towing arrangements at both the fore and aft of the vessel, as required by SOLAS Regulation II-1/3-4. This requirement is applicable to tankers exceeding 20,000 deadweight tons (DWT) and ensures rapid deployment of emergency towing systems, typically within 15 minutes, during critical situations. The ETAs are designed to withstand adverse environmental conditions and eliminate the need for hazardous manual intervention by crew members. The IMO's "Guidelines on Emergency Towing Arrangements for Tankers" (MSC.35(63)) provide the framework for the design, strength, and maintenance of such systems. Additionally, ETOPs are recommended to

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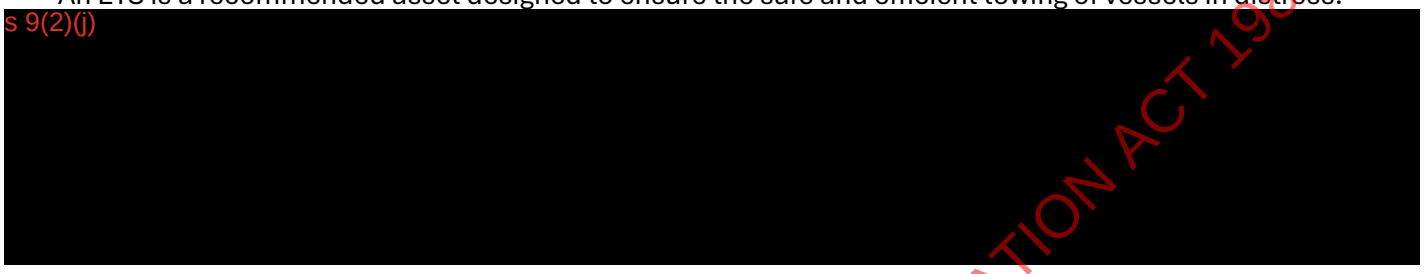
enhance operational readiness. Vessels are required to conduct regular inspections of ETAs, under the oversight of the U.S. Coast Guard and recognised classification societies, to maintain compliance.

Given the operational success of these systems, regulators could consider implementing similar requirements in the Cook Strait. Such arrangements would enhance the efficiency of emergency towing operations in this critical waterway, ensuring swift response capabilities and improved maritime safety.

14.5 EMERGENCY TOWING SYSTEM (ETS) KIT

An ETS is a recommended asset designed to ensure the safe and efficient towing of vessels in distress.

s 9(2)(j)



Onboard storage of ETS components on vessels such as Strike 1, and Strike 2 can be considered for immediate accessibility during emergencies. To complement onboard systems, ETS components can also be stored at strategic port locations, particularly in high-traffic or high-risk areas. Having an adequate inventory of ETS components at ports ensures scalability, enabling additional support in case of a large-scale incident.

s 9(2)(j)

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15.0 CREW COMPETENCE FOR ANCHOR HANDLING ON ETVS

Emergency towing operations demand precise execution and a high level of competence from the crew. ETV must operate effectively in challenging environments, requiring the crew to possess specialised knowledge and skills. Below are the recommended qualifications and practices to ensure safe and efficient emergency towing operations.

15.1 CORE COMPETENCIES

Crew members involved in emergency towing operations must demonstrate proficiency in:

- **Towline Management**: Expertise in handling, connecting, and monitoring towlines under varying sea states, including heavy weather and high drift situations.
- **Dynamic Towing**: Understanding the effects of wave drift forces, hydrodynamic resistance, and load shifts on the towed vessel's stability.
- **Emergency Towing Equipment**: Skilled operation of specialised tools, such as ETS, fire wires, and tow-off pennants (ETOPs).

15.2 TRAINING AND CERTIFICATION

- **STCW Certification**: Compliance with International STCW standards, ensuring crew members are qualified in ship handling and emergency procedures.
- **Emergency Towing Simulations**: Participation in simulator-based training to practice emergency scenarios, including:
    - Recovering a lost towline.
    - Reconnecting to a distressed vessel in high-sea conditions.
- **Specialised Emergency Drills**: Regular drills that address:
    - Failure scenarios, such as towline breakage or winch malfunctions.
    - Safe approaches to drifting or unpowered vessels.
    - Navigating in challenging sea-state conditions.

15.3 SPECIALISED SKILLS

- **Towing Stability Management**: Understanding the dynamics of towing forces, including yaw, sway, and surge forces that affect both the towing and towed vessels.
- **Winch and Line Operations**: Proficiency in operating high-tension winches and safely securing secondary towlines.

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- **Risk Mitigation**: Ability to assess real-time risks such as adverse weather, vessel instability, or gear failure and take corrective actions.

15.4 OPERATIONAL COORDINATION

- **Effective Communication**: Clear and concise communication with the vessel in distress, port authorities, and other supporting tugs or vessels.
- **Role Clarity**: Efficient coordination of roles among deck officers, engineers, and lookouts to ensure seamless execution during towing operations.
- **Contingency Planning**: Familiarity with emergency response plans, such as those outlined in SOLAS Chapter V regulations and IMO emergency towing guidelines.

15.5 SAFETY AND COMPLIANCE

- **Equipment Inspection**: Routine checks of emergency towing gear, including towlines, pennants, and release systems, to ensure reliability during operations.
- **Adherence to Standards**: Compliance with international safety protocols, including IMO's MSC Circulars and industry best practices.
- **Situational Awareness**: Maintaining vigilance over sea and weather conditions, ensuring rapid response to dynamic changes during emergency operations.

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16.0 CONCLUSION

An EORC framework is crucial to strengthen the emergency preparedness of New Zealand. The proposed dual-strike model includes a first-strike ETV for rapid stabilisation and a second-strike ETV for extended towing and salvage operations. The first-strike ETV, stationed in high-risk areas like the Cook Strait, would be a compact yet powerful vessel, preferably more than 40 meters in length with a minimum bollard pull of 85 tonnes. It is recommended to be equipped with advanced firefighting capabilities (minimum 0.5 FiFi standard) and towing systems to stabilise vessels under challenging weather conditions as regularly witnessed in Cook Straits.

The second-strike ETV would be a larger, regionally positioned vessel, designed for long-distance towing and complex operations. With a recommended size of over 60 meters in length, with a bollard pull of minimum 85 tonnes, it would include dual-drum winches, oil spill response kits, and modular rescue systems. Additional features, such as dynamic positioning systems (DP) and accommodation for extended crew or salvage teams, would enhance its utility in offshore and multi-day operations.

To address the financial implications, a blended funding model is proposed. This could involve Crown funding, public-private partnerships, and commercial utilisation of the ETVs for secondary roles such as port towage, offshore supply support, or cable protection. Examples from Australia's AMSA framework highlight the potential for cost-effective implementation without compromising operational readiness. Such an approach would ensure economic viability while maintaining emergency response capabilities.

In parallel, crew competency must be prioritised through targeted training in emergency towing, dynamic positioning, and high-seas operations. Technical proficiency in handling specialised towing equipment and understanding environmental forces is essential. Further, strengthening support systems such as VTMS and shore-side coordination centres would enhance response efficiency.

Adopting this technically robust and scalable model should basis our technical study and experience support the development of maritime safety framework for New Zealand, ensuring preparedness to meet future operational demands and effectively safeguard its maritime domain.

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17.0 APPENDICES

17.1 TECHNICAL ANALYSIS TEAM – ABL

Simon Healy (Project Director)

Simon serves as the Regional Managing Director (APAC) for ABL Energy and Marine Consultants Pte Ltd with responsibility for ABL operations in 11 Countries across the region. A seasoned Master Mariner, he brings extensive senior executive experience in the energy, marine, and specialist shipping industries. He has commanded advanced offshore vessels performing a wide range of complex operations in the marine services and upstream oil and gas sectors.

During his seafaring career, Simon developed expertise in diverse operations, including cable repair and installation, container & general cargo, subsea operations, towage, anchor handling, maritime rescue operations, and dynamic positioning (DP) as a Senior DPO, with significant hands-on operational DP experience.

In his shore-based career, Simon has held senior management positions with globally recognised marine services organisations, gaining comprehensive experience in business management across multiple international locations, including Australia, the Middle East, Africa, Asia, and Europe. His professional portfolio spans marine business management & operations, marine assurance & due diligence, marine and engineering consultancy & expert services, wreck removal, and marine warranty survey (MWS) projects. Simon is also well-versed in emergency towing operations, having commercially managed Swire Pacific Offshore in Western Australia during the period when the PACIFIC RESPONDER held the ETV contract for AMSA.

Hemant Phul (Project Manager)

Hemant is the P&I Manager for ABL Energy & Marine Consultants in the Singapore office. He is a seasoned mariner with over two decades of experience in maritime operations and marine salvage, with a strong focus on emergency response and wreck removal. He has held senior roles, including Salvage Master and General Manager, at a leading global salvage provider, overseeing critical operations across the APAC region.

Hemant has extensive experience in casualty response operations, including emergency towing scenarios resulting from mechanical failures, groundings, collisions, and fire incidents. He has played various roles over the years in prominent salvage projects, including the Ever Given grounding in the Suez Canal, the *Wakashio* grounding and oil spill in the Maldives, *Costa Concordia* oil recovery, and *Rena* wreck removal, amongst others. With involvement in over a hundred salvage cases globally, Hemant brings expertise in coordinating and executing complex emergency towing and salvage operations, ensuring safe and effective resolutions to maritime emergencies.

Mowenna Vye (Country Lead for NZ)

Morwenna Vye is a highly skilled maritime professional with extensive experience across diverse technical and operational roles in the marine industry. Her career encompasses commanding

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superyachts in Europe, Australia, and the Pacific, managing complex marine facilities, and ensuring compliance with maritime regulations. Morwenna has a strong technical foundation in vessel operations, navigation safety, and maritime health and safety systems. She has managed Europe's largest dry-stack marina, implemented regulatory compliance frameworks, and conducted detailed safety audits and incident investigations to improve maritime safety standards.

Morwenna's regulatory expertise is underpinned by her work with Maritime New Zealand and the Bay of Plenty Regional Council, where she executed vessel inspections, audits, and safety assessments while coordinating navigation safety operations, including the maintenance of harbour infrastructure and vessels. Her technical experience includes implementing ISM and ISO management systems, advising on superyacht crewing and maintenance, and overseeing heavy equipment logistics in marine environments. Accredited in advanced maritime certifications, including ISM auditing, maritime incident investigations, and oil spill response, Morwenna applies a methodical approach to risk management and operational efficiency across commercial and recreational maritime sectors.

Jason Zamparutti (Vessel Expert)

Jason Zamparutti is a seasoned Master Mariner with extensive expertise in offshore tug operations and emergency towing. As a former Emergency Response Team (ERT) lead, he has managed critical towage services, deepwater anchor handling, and mooring operations, prioritizing safety and operational excellence. His Unlimited Dynamic Positioning (DP) certification and experience with pre-lay, well stimulation, and ROV operations enhance his versatility in complex maritime projects.

Jason's leadership spans diverse fleets across Africa, Asia Pacific, and the Middle East, ensuring compliance with stringent safety and operational standards. He has also overseen vessel reactivation and layup management, demonstrating strategic planning in challenging environments. With a proven track record in emergency towing and maritime safety, Jason brings invaluable expertise to any ETV technical study.

Chris Cox (Data Analyst)

Chris is a seasoned data specialist with over 16 years of experience in processing VDR data, developing maritime analytics software, and conducting incident reconstructions using MADAS. His background includes designing analytical modules, handling diverse maritime data sources (VDR, AIS, ECDIS, GPS), and performing tasks such as video reconstructions, audio enhancement, and digital plot production. This work, along with traffic analysis data, has been utilised for traffic determination, which can then be synthesised to support bollard pull calculations.

Chris also has expertise in navigational simulations and "what-if" modelling, aiding in incident prevention strategies. His strong proficiency in GIS tools like ArcGIS supports spatial analysis critical for ETV route planning and operational mapping. Additionally, he leads the development of *emiTr*, ABL's emissions tracking software, helping marine clients meet sustainability goals through precise emissions calculation and reporting.

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17.2 BOLLARD PULL CALCULATIONS/SCENARIOS

17.2.1 BP CALCULATION FOR CONTAINER VESSEL MSC FREYA

BOLLARD PULL CALCULATION.

MSC FREYA / CONTAINER

Wind Speed = 40.00 knot Significant Wave Height = 5.00 m Current = 1.00 knot

INPUT DETAILS

VESSEL PARAMETERS

Vessel Name	MSC Freya
Vessel Type	Container
Vessel Design	---
Length, m	350.00
Beam, m	51.00
Depth, m	29.85
Draft, m	15.60

ENVIRONMENTAL PARAMETERS

Criteria	Standard Criteria
Wind speed, m/Sec	20.58
Significant Wave height, m	5.00
Current, m/Sec	0.51
Density of air, t/m^3	0.0012
Density of water, t/m^3	1.025

CALCULATIONS

WIND FORCE CALCULATION

Description	Width (m)	Height (m)	Area (m^2)	Height Above WL	Cs	Ch	Force (tonnes)
Hull	51.00	14.25	726.75	7.13	1.00	1.00	19.13
Superstructure with Containers (Estimated)	51.00	24.15	1231.65	26.33	1.10	1.10	39.23
Total Wind Force, tonnes							58.37

CURRENT FORCE CALCULATION

Total projected area below water line, m^2	795.60
Cd	0.35
Current Force, tonnes	3.85

ADDITIONAL AREA BELOW WATER LINE (IF ANY)

Description	Width (m)	Height (m)	Area (m^2)
Total			

WAVE DRIFT FORCE CALCULATION

Reflection coefficient	0.45
Wave Drift Force, tonnes	33.08

RESULTS

EFFECTIVE BOLLARD PULL	95.30	tonnes
Tug Efficiency (1)	0.75	
STATIC CONTINUOUS BOLLARD PULL	127.05	tonnes

(1) Tug efficiency is considered 75% which may vary depending on static continuous bollard pull of the selected tug

REFERENCES

[1] DNVGL-OS-C301, Stability and Watertight Integrity
[2] DNV-RP-H103, Modelling and Analysis of Marine Operations
[3] DNVGL-ST-N001, Marine Operations and Marine Warranty

NOTES

COEFFICIENTS

Wind Height Coefficient
Ref. DNVGL-OS-C301

Height above sea level, m	Ch
0 - 15.3	1.00
15.3 - 30.5	1.10
30.5 - 46.0	1.20
46.0 - 61.0	1.30
61.0 - 76.0	1.37
76.0 - 91.5	1.43
91.5 - 106.5	1.48
106.5 - 122.0	1.52
122.0 - 137.0	1.56
137.0 - 152.5	1.60
152.5 - 167.5	1.63
167.5 - 183.0	1.67
183.0 - 198.0	1.70
198.0 - 213.5	1.72
213.5 - 228.5	1.75
228.5 - 244.0	1.77
244.0 - 256.0	1.79
Above 256.0	1.80

Wind Shape Coefficient
Ref. DNVGL-OS-C301

Shape	Cs
Spherical	0.40
Cylindrical	0.50
Large flat surface (Hull, Deckhouse, Smooth under-deck areas)	1.00
Drilling derrick	1.25
Wires	1.20
Exposed beams and girders under deck	1.30
Small parts	1.40
Isolated shapes (crane, beam, etc.)	1.50
Clustered deckhouses or similar structures	1.10

Current Coefficient
Ref. DNV-RP-H103

Hull Type	Cd
Square face	1.00
Spoon bow/Raked bow	0.30
Faired bow	0.35

Reflection Coefficients
Ref. DNV-RP-H103

Hull Type	R
Square face	1.00
Condeep base	0.97
Vertical cylinder	0.88
Barge with raked bow	0.67
Barge with spoon bow	0.55
Ship bow	0.45

Client	Technical Analysis - KPMG			Report No.	NIL
Date	14-Dec-2024	Revision	A	Title	Bollard Pull Calculations for "MSC Freya" / Container
Author	MMT	Checked	PM	Approved	HP

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BOLLARD PULL CALCULATION

MSC FREYA / CONTAINER

Wind Speed = 30.00 knot Significant Wave Height = 4.00 m Current = 1.00 knot

INPUT DETAILS

VESSEL PARAMETERS

Vessel Name	MSC Freya
Vessel Type	Container
Vessel Design	---
Length, m	350.00
Beam, m	51.00
Depth, m	29.85
Draft, m	15.60

ENVIRONMENTAL PARAMETERS

Criteria	Specific Criteria 1
Wind speed, m/Sec	15.43
Significant Wave height, m	4.00
Current, m/Sec	0.51
Density of air, t/m^3	0.0012
Density of water, t/m^3	1.025

CALCULATIONS

WIND FORCE CALCULATION

Description	Width (m)	Height (m)	Area (m^2)	Height Above WL	Cs	Ch	Force (tonnes)
Hull	51.00	14.25	726.75	7.13	1.00	1.00	10.76
Superstructure with Containers (Estimated)	51.00	24.15	1231.65	26.33	1.10	1.10	22.07
Total Wind Force, tonnes							32.83

CURRENT FORCE CALCULATION

Total projected area below water line, m^2	795.60
Cd	0.35
Current Force, tonnes	3.85

WAVE DRIFT FORCE CALCULATION

Reflection coefficient	0.45
Wave Drift Force, tonnes	21.17

ADDITIONAL AREA BELOW WATER LINE (IF ANY)

Description	Width (m)	Height (m)	Area (m^2)
#REF!			
Total			

RESULTS

EFFECTIVE BOLLARD PULL	57.85	tonnes
Tug Efficiency ①	0.70	
STATIC CONTINUOUS BOLLARD PULL	82.64	tonnes

① Tug efficiency is considered 70% which may vary depending on static continuous bollard pull of the selected tug

COEFFICIENTS

Wind Height Coefficient
Ref. DNVGL-OS-C301

Height above sea level, m	Ch
0 - 15.3	1.00
15.3 - 30.5	1.10
30.5 - 46.0	1.20
46.0 - 61.0	1.30
61.0 - 76.0	1.37
76.0 - 91.5	1.43
91.5 - 106.5	1.48
106.5 - 122.0	1.52
122.0 - 137.0	1.56
137.0 - 152.5	1.60
152.5 - 167.5	1.63
167.5 - 183.0	1.67
183.0 - 198.0	1.70
198.0 - 213.5	1.72
213.5 - 228.5	1.75
228.5 - 244.0	1.77
244.0 - 258.0	1.79
Above 258.0	1.80

Wind Shape Coefficient
Ref. DNVGL-OS-C301

Shape	Cs
Spherical	0.40
Cylindrical	0.50
Large flat surface (Hull, Deckhouse, Smooth under-deck areas)	1.00
Drilling derrick	1.25
Wires	1.20
Exposed beams and girders under deck	1.30
Small parts	1.40
Isolated shapes (crane, beam, etc.)	1.50
Clustered deckhouses or similar structures	1.10

Current Coefficient
Ref. DNV-RP-H103

Hull Type	Cd
Square face	1.00
Spoon bow/Raked bow	0.30
Faired bow	0.35

Reflection Coefficients
Ref. DNV-RP-H103

Hull Type	R
Square face	1.00
Condeep base	0.97
Vertical cylinder	0.88
Barge with raked bow	0.67
Barge with spoon bow	0.55
Ship bow	0.45

REFERENCES

[1] DNVGL-OS-C301, Stability and Watertight Integrity
[2] DNV-RP-H103, Modelling and Analysis of Marine Operations
[3] DNVGL-ST-N001, Marine Operations and Marine Warranty

NOTES

Client	Technical Analysis - KPMG			Report No.	NIL
Date	14-Dec-2024	Revision	A	Title	Bollard Pull Calculations for "MSC Freya" / Container
Author	MMT	Checked	PM	Approved	HP

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BOLLARD PULL CALCULATION

MSC FREYA / CONTAINER

Wind Speed = 25.00 knot Significant Wave Height = 3.00 m Current = 4.00 knot

INPUT DETAILS

VESSEL PARAMETERS

Vessel Name	MSC Freya
Vessel Type	Container
Vessel Design	---
Length, m	350.00
Beam, m	51.00
Depth, m	29.85
Draft, m	15.60

ENVIRONMENTAL PARAMETERS

Criteria	Specific Criteria 2
Wind speed, m/Sec	12.86
Significant Wave height, m	3.00
Current, m/Sec	2.06
Density of air, t/m^3	0.0012
Density of water, t/m^3	1.025

CALCULATIONS

WIND FORCE CALCULATION

Description	Width (m)	Height (m)	Area (m^2)	Height Above WL	Cs	Ch	Force (tonnes)
Hull	51.00	14.25	726.75	7.13	1.00	1.00	7.47
Superstructure with Containers (Estimated)	51.00	24.15	1231.65	26.33	1.10	1.10	15.33
Total Wind Force, tonnes							22.80

CURRENT FORCE CALCULATION

Total projected area below water line, m^2	795.60
Cd	0.35
Current Force, tonnes	61.59

WAVE DRIFT FORCE CALCULATION

Reflection coefficient	0.45
Wave Drift Force, tonnes	11.91

ADDITIONAL AREA BELOW WATER LINE (IF ANY)

Description	Width (m)	Height (m)	Area (m^2)
#REF!			
Total			

RESULTS

EFFECTIVE BOLLARD PULL	96.30	tonnes
Tug Efficiency ①	0.77	
STATIC CONTINUOUS BOLLARD PULL	125.05	tonnes

① Tug efficiency is considered 77% which may vary depending on static continuous bollard pull of the selected tug.

COEFFICIENTS

Wind Height Coefficient
Ref. DNVGL-OS-C301

Height above sea level, m	Ch
0 - 15.3	1.00
15.3 - 30.5	1.10
30.5 - 46.0	1.20
46.0 - 61.0	1.30
61.0 - 76.0	1.37
76.0 - 91.5	1.43
91.5 - 106.5	1.48
106.5 - 122.0	1.52
122.0 - 137.0	1.56
137.0 - 152.5	1.60
152.5 - 167.5	1.63
167.5 - 183.0	1.67
183.0 - 198.0	1.70
198.0 - 213.5	1.72
213.5 - 228.5	1.75
228.5 - 244.0	1.77
244.0 - 258.0	1.79
Above 258.0	1.80

Wind Shape Coefficient
Ref. DNVGL-OS-C301

Shape	Cs
Spherical	0.40
Cylindrical	0.50
Large flat surface (Hull, Deckhouse, Smooth under-deck areas)	1.00
Drilling derrick	1.25
Wires	1.20
Exposed beams and girders under deck	1.30
Small parts	1.40
Isolated shapes (crane, beam, etc.)	1.50
Clustered deckhouses or similar structures	1.10

Current Coefficient
Ref. DNV-RP-H103

Hull Type	Cd
Square face	1.00
Spoon bow/Raked bow	0.30
Faired bow	0.35

Reflection Coefficients
Ref. DNV-RP-H103

Hull Type	R
Square face	1.00
Condeep base	0.97
Vertical cylinder	0.88
Barge with raked bow	0.67
Barge with spoon bow	0.55
Ship bow	0.45

REFERENCES

[1] DNVGL-OS-C301, Stability and Watertight Integrity
[2] DNV-RP-H103, Modelling and Analysis of Marine Operations
[3] DNVGL-ST-N001, Marine Operations and Marine Warranty

NOTES

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Date	14-Dec-2024	Revision	A	Title	Bollard Pull Calculations for "MSC Freya" / Container
Author	MMT	Checked	PM	Approved	HP

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BOLLARD PULL CALCULATION

MSC FREYA / CONTAINER

Wind Speed = 20.00 knot Significant Wave Height = 3.00 m Current = 5.00 knot

INPUT DETAILS

VESSEL PARAMETERS

Vessel Name	MSC Freya
Vessel Type	Container
Vessel Design	---
Length, m	350.00
Beam, m	51.00
Depth, m	29.85
Draft, m	15.60

ENVIRONMENTAL PARAMETERS

Criteria	Specific Criteria 3
Wind speed, m/Sec	10.29
Significant Wave height, m	3.00
Current, m/Sec	2.57
Density of air, t/m^3	0.0012
Density of water, t/m^3	1.025

CALCULATIONS

WIND FORCE CALCULATION

Description	Width (m)	Height (m)	Area (m^2)	Height Above WL	Cs	Ch	Force (tonnes)
Hull	51.00	14.25	726.75	7.13	1.00	1.00	4.78
Superstructure with Containers (Estimated)	51.00	24.15	1231.65	26.33	1.10	1.10	9.81
Total Wind Force, tonnes							14.59

CURRENT FORCE CALCULATION

Total projected area below water line, m^2	795.60
Cd	0.35
Current Force, tonnes	96.23

ADDITIONAL AREA BELOW WATER LINE (IF ANY)

Description	Width (m)	Height (m)	Area (m^2)
#REF!			
Total			

WAVE DRIFT FORCE CALCULATION

Reflection coefficient	0.45
Wave Drift Force, tonnes	11.91

RESULTS

EFFECTIVE BOLLARD PULL	122.73	tonnes
Tug Efficiency ①	0.77	
STATIC CONTINUOUS BOLLARD PULL	159.40	tonnes

① Tug efficiency is considered 77% which may vary depending on static continuous bollard pull of the selected tug.

COEFFICIENTS

Wind Height Coefficient
Ref. DNVGL-OS-C301

Height above sea level, m	Ch
0 - 15.3	1.00
15.3 - 30.5	1.10
30.5 - 46.0	1.20
46.0 - 61.0	1.30
61.0 - 76.0	1.37
76.0 - 91.5	1.43
91.5 - 106.5	1.48
106.5 - 122.0	1.52
122.0 - 137.0	1.56
137.0 - 152.5	1.60
152.5 - 167.5	1.63
167.5 - 183.0	1.67
183.0 - 198.0	1.70
198.0 - 213.5	1.72
213.5 - 228.5	1.75
228.5 - 244.0	1.77
244.0 - 258.0	1.79
Above 258.0	1.80

Wind Shape Coefficient
Ref. DNVGL-OS-C301

Shape	Cs
Spherical	0.40
Cylindrical	0.50
Large flat surface (Hull, Deckhouse, Smooth under-deck areas)	1.00
Drilling derrick	1.25
Wires	1.20
Exposed beams and girders under deck	1.30
Small parts	1.40
Isolated shapes (crane, beam, etc.)	1.50
Clustered deckhouses or similar structures	1.10

Current Coefficient
Ref. DNV-RP-H103

Hull Type	Cd
Square face	1.00
Spoon bow/Raked bow	0.30
Faired bow	0.35

Reflection Coefficients
Ref. DNV-RP-H103

Hull Type	R
Square face	1.00
Condeep base	0.97
Vertical cylinder	0.88
Barge with raked bow	0.67
Barge with spoon bow	0.55
Ship bow	0.45

REFERENCES

[1] DNVGL-OS-C301, Stability and Watertight Integrity
[2] DNV-RP-H103, Modelling and Analysis of Marine Operations
[3] DNVGL-ST-N001, Marine Operations and Marine Warranty

NOTES

Client	Technical Analysis - KPMG			Report No.	NIL
Date	14-Dec-2024	Revision	A	Title	Bollard Pull Calculations for "MSC Freya" / Container
Author	MMT	Checked	PM	Approved	HP

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17.4 CASE STUDY: EMERGENCY TOWING SYSTEM IN THE GERMAN BIGHT

The German Bight, situated in the southeastern North Sea, is one of Europe's busiest and most ecologically sensitive maritime zones. With heavy shipping traffic, including tankers, ferries, and cargo vessels, the region faces a high risk of maritime incidents. Adding to the complexity are its vulnerable ecosystems, such as the Wadden Sea, a UNESCO World Heritage site. In response to these challenges, Germany has established a robust two-tier emergency towing system to safeguard maritime operations and environmental integrity.

The first tier comprises localised ETVs strategically stationed near high-risk areas, such as Bremerhaven and Cuxhaven. These vessels are designed for rapid stabilisation of distressed ships. Their agility allows them to operate effectively in confined and shallow waters, enabling them to prevent incidents from escalating into ecological disasters. The Pallas incident of 1998, where an ETV prevented a grounded freighter from spilling oil into the Wadden Sea, exemplifies their crucial role.

The second tier includes larger offshore tugs capable of handling long-distance towing and large-scale emergencies. These vessels feature extensive deck space for carrying salvage and oil spill response equipment and are equipped with advanced firefighting systems. Their extended range and endurance make them indispensable for incidents further offshore, as demonstrated during the MSC Napoli operation, where an offshore tug successfully towed the distressed vessel to safety under challenging conditions.

This two-tiered system operates under a centralized command structure, ensuring seamless coordination between localised and regional efforts. Moreover, Germany's integration into European emergency response networks facilitates cross-border collaboration, enhancing its capacity to manage complex maritime emergencies effectively.

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11 February 2025

Document 4

New Zealand's Emergency Ocean Response Capability

Detailed Business Case Executive Summary

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Nō te rere moana Aotearoa
MARITIME NEW ZEALAND

The Proposal

A series of significant maritime incidents across New Zealand and in the Cook Strait have highlighted New Zealand's lack of dedicated emergency ocean response capability (EORC). Maritime NZ are seeking funding for the services of two vessels – a smaller 'first-strike' vessel to be dedicated to quickly reaching and stabilising a stricken vessel in the Cook Strait, and a larger 'second-strike' vessel that could tow any stricken vessel in New Zealand back to port. The Crown would not own these vessels and would only pay for a portion of the operating costs related to EORC services, as the vessels will be delivering other commercial contracts when not required for EORC.

An Indicative Business Case, outlining the problems, and preferred solution, was presented to Cabinet in November 2024. Cabinet directed the Minister of Transport to bring a Detailed Business Case back to Cabinet in March 2025.

Since Cabinet considered the Indicative Business Case, Maritime NZ have:

- Engaged the market and sector stakeholders on potential options
- Received independent technical advice on the requirements
- Refined costs and benefits

After more detailed analysis, **the preferred option is still a two-strike approach**. This approach balances the needs of our highest risk area, the Cook Strait, with the benefits of EORC for the whole of New Zealand, including the offshore oil and gas sector. In addition to reducing the risk of vessel incidents becoming severe (e.g. loss of life or large oil spill), actuarial risk analysis suggests that up to $1.9b net economic savings could be made across New Zealand over the next 10 years by having EORC vessels service all of New Zealand, largely driven by the reduction in delay while vessels wait for another vessel to come and tow them back to port.

We seek your agreement to progress our preferred option, which is to procure both First- and Second-strike capabilities through one or more contracted service provider(s).

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Preferred Option

The preferred option would see:

First-strike capability - A Cook Strait based capability to stabilise and hold stricken vessels in distress in a timely manner.

- *Why:* rapid response (within an 1-2 hours) can prevent the escalation of incidents into severe, loss of life scenarios – the risk of incidents in the Cook Strait is particularly acute because of sea state conditions, geography, and types of vessel, and;

Second-strike capability - A separate national capability which can arrive at an incident within an appropriate timeframe, with the capability to tow stricken vessels in distress back to port / to safety.

- *Why:* The Crown is currently funding a second-strike vessel to remain in New Zealand waters, as all others have left due to a lack of commercial viability. Without this second strike vessel, a stricken vessel would have to wait a minimum of five days for a suitable vessel to come from Australia to tow it back to shore.

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Cost profile: Cost profile to FY2035/36 for Two-Strike option with levies

	Cost to Crown (new)	Cost to levy payers (new)	Total
s 9(2)(j)			

The costs have been modelled based on expected market rates, informed by independent technical experts and market engagement, but final costs will not be known until a full procurement process can be undertaken. The costs could reduce as commercial use of the vessels becomes clearer through negotiation.

Contingency has been applied at 30% across costs due to market uncertainty and fluctuations in operating cost over the life of the contract (e.g. fuel).

Maritime are investigating two changes to the levies to support EORC funding. These are discussed on the next page.

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Cost-recovery approach

s 9(2)(f)(iv)

[redacted]

Procurement Approach

The recommended approach to market is a single, two-step, competitive tender for both First- and Second-strike capability.

Maritime NZ will **seek to minimise costs** to the Crown/maritime users through (for example):

- Encouraging bidders to **partner in the procurement** (to increase the potential range of commercial activities available and reduce the level of 'risk' priced into bids);
- Seek proposals with a **high degree of commercialisation opportunities**, and certainty or confidence of commercial revenue (to reduce costs to the Crown);
- Seek further cost savings, **cost reductions through the negotiation process** (for example by taking on some cost risk for variable items (such as fuel) and seek to understand bidders' drivers for their contingencies, to reduce the level of 'buffer' that could be applied by bidders); and
- Consider commercial **approaches that minimise costs to the Crown** (for example 'top-up' funding models where Crown contributions decrease as commercial revenue increases).

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Understanding the benefit of EORC

The primary purpose of emergency response capability is to mitigate low probability, but high impact and potentially catastrophic events. The impacts from a stricken vessel are highly varied and dependent on many multiplier factors (e.g. sea state conditions, location, type of cargo, passenger/non-passenger, size of oil spill). Because of this, Maritime NZ commissioned actuaries with experience in maritime risk to examine the overall economic cost to New Zealand of maritime incidents based on a valuation of the risk.

The modelling found that:

- **While severe (e.g. loss of life), maritime events are historically very rare**, these extreme events have a disproportionately large impact on the 10-year average cost of incidents because of the impact on people, loss of vessel/cargo and potential for environmental damage. Investment to prevent these types of incident could be considered on a rationale similar to purchasing insurance; and
- **The bulk of economic costs for an average incident are due to the delay in cargo/passengers**. This suggests that a solution that reduces the time taken to get a vessel back to port will represent good value for money regardless of whether an incident is severe or not.

Risk adjusted economic returns of EORC options

All short-listed options were assessed against the total economic value they could feasibly help reduce or avoid. The assessment found:

- In extreme events in the Cook Strait (e.g loss of life, loss of vessel), the proposed First-strike capability will provide significant economic benefit – over $300m of economic benefit through reduction in lost cargo, reduction in fatalities and reduction in disruption alone; and
- For a likely incident around the coast of New Zealand, there is a significant economic benefit for a second-strike vessel based in New Zealand to reduce the time taken to tow a stricken vessel back to port. The net financial impact (benefits less the cost), could be up to $1.9b over the next 10 years.

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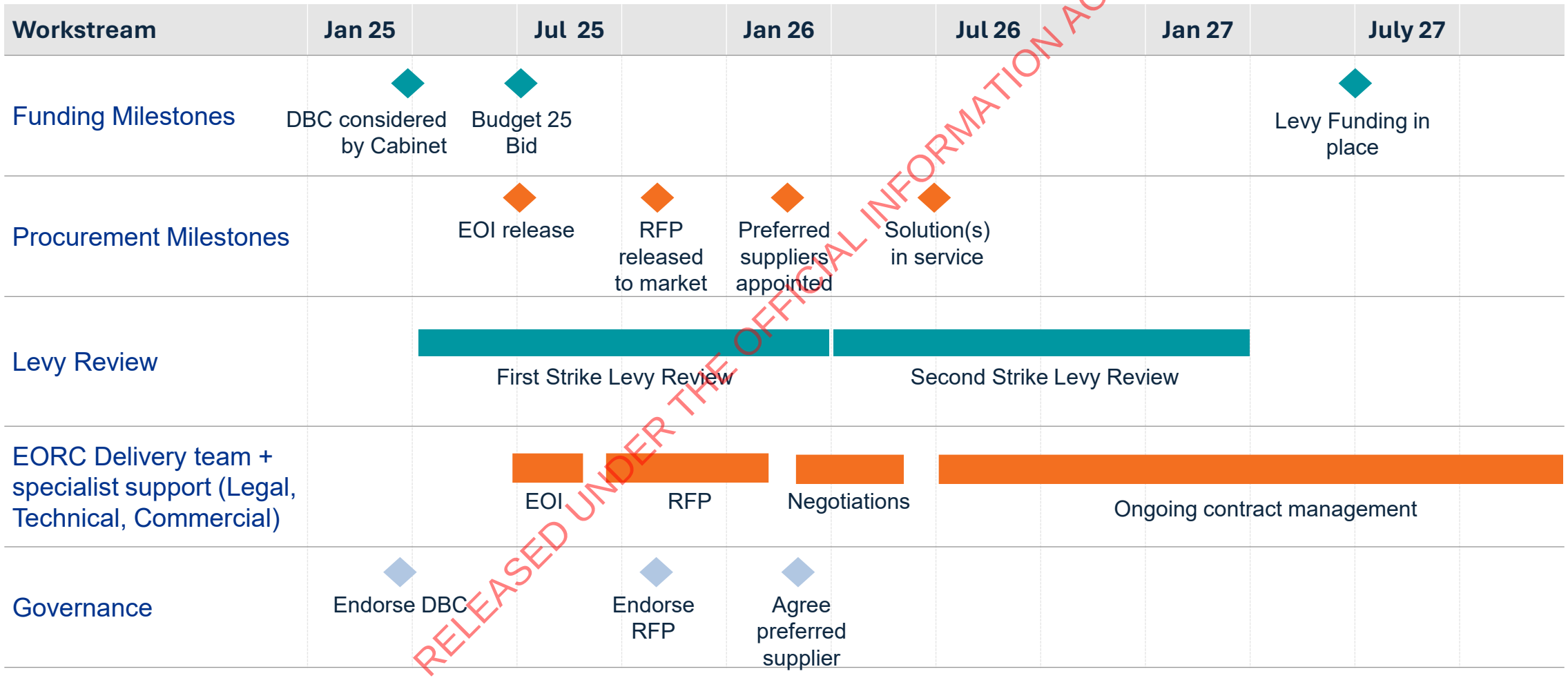
EORC Implementation Plan

	Service commencement	End date
Interim Solution	December 2024	Q2 2026
First Strike	Q2 2026	Q1 2035
Second Strike	Q2 2026	Q1 2035



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Nō te rere moana Aotearoa

MARITIME NEW ZEALAND

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Nō te rere moana Aotearoa
MARITIME NEW ZEALAND

Maritime New Zealand

New Zealand's Emergency Ocean Response Capability

Detailed Business Case (DBC)

Prepared by:	Maritime New Zealand
Prepared for:	
Date:	03 March 2025
Version:	V0.5
Status:	Final

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Maritime New Zealand Emergency Ocean Response Capability
Detailed Business Case

Document Control

Document Information

Document ID	D25/10869
Document owner	Maritime New Zealand
Issue date	03/03/2025
Filename	MNZ Emergency Ocean Response Detailed Business Case

Document History

Version	Issue date	Changes
0.1	31.1.25	First draft of Financial, Commercial and Management Cases reviewed by Project Sponsor
1.0	4.2.25	Full draft reviewed by Project Sponsor
2.0, 3.0. 4.0	14.2.25	Project Sponsor Review post agency (MoT) engagement
5.0	03.03.25	Full draft reviewed and approved by CE MNZ

Document Review

Role	Name	Review Status
Project Manager	Dylan Page, Chief Advisor RSSS	Complete
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Glossary of terms

Term	Meaning
Emergency Ocean Response Capabilities (EORC)	A range of capabilities, including vessels, equipment, and crew qualified and capable of towing a large, stricken vessel in open sea conditions.
Emergency Towage (capable) Vessel (ETV)	For this work, this refers to vessels capable of undertaking some level of ocean-going towage work. ETVs are a key part of EORC. It is important to note that in the context of this work, the emergency towage capability of different ETVs will vary (so some vessels are able to provide ETV services in a wide range of conditions, whereas others are more limited).
First-strike capability	This is a locally based ETV capable of quickly reaching, stabilising, and holding a stricken vessel in place until a suitable towing vessel can arrive on the scene.
Second-strike capability	This is an ETV capable of towing a stricken vessel to the nearest suitable place of refuge following an initial 'First-strike'. A Second-strike capability does not need to be locally based and only needs to be able to arrive at an emergency within a reasonable timeframe.

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Executive Summary

Introduction

Several incidents involving large vessels in distress have highlighted the challenges faced by New Zealand in providing an Emergency Ocean Response Capability (EORC) nationally. These challenges are particularly acute in the Cook Strait region given its geographic constraints, high passenger and user numbers, and overall risk profile, but also apply more broadly around the coast of New Zealand.

Following the Interislander ferry *Kaitaki*'s loss of power in 2023, Maritime New Zealand (Maritime NZ) provided updated advice to Ministers on the limited access to EORC in New Zealand, including an initial capability analysis. Maritime NZ further engaged with the market in late 2023 to understand the market's capability and capacity to deliver EORC.

As part of Budget 2024, Ministers directed Maritime NZ to continue to build on this work and further refine options for addressing the current lack of available EORC in New Zealand, with a particular focus on the Cook Strait region. The EORC Indicative Business Case (IBC) was approved by Cabinet in November 2024 [Cabinet Minute EXP-24-MIN-0067 refers]. The IBC focussed on the case for change, initial options, and indicative costs based on Maritime NZ's initial analysis. The preferred approach presented in the IBC was a two-strike solution:

- A rapid first-strike response to hold and stabilise a vessel based in the Cook Strait; and
- A larger second-strike vessel t to tow a stricken vessel back to port.

Cabinet directed the Minister of Transport to bring a Detailed Business Case (DBC) to Cabinet in March 2025. As part of the process Maritime NZ undertook a Request for Information (RFI) with the market for the provision of EORC and commissioned further technical analysis of the preferred option from the IBC from international maritime experts ABL (*EORC Technical Review* – attached separately).

The purpose of this DBC is to seek Cabinet endorsement of the preferred way forward at this stage and approval to submit a Budget bid for consideration as part of Budget 2025.

This business case:

- Confirms the key findings of the IBC;
- Sets out the results of more detailed technical and market analysis;
- Outlines the preferred procurement approach and indicative commercial arrangements;
- Describes the estimate funding requirement and funding approaches; and
- Sets out the proposed delivery arrangements for the preferred way forward.

Strategic Case

The IBC set out the case for change for the provision of EORC services in the Cook Strait and nationally. The DBC confirms the findings from the IBC based on the additional analysis undertaken and technical feedback from ABL (a marine technical advisor).

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Reconfirming the Case for Change

When vessels get in trouble in open waters, they may require emergency assistance to prevent further damage to the vessel, prevent environmental damage or prevent loss of life. In New Zealand, we have traditionally provided emergency response services through a mixture of small harbour tugboats and suitable commercial vessels operating in NZ waters that can assist in an emergency ("vessels of opportunity").

Recent maritime incidents have shown the challenges providing EORC in New Zealand:

- The Cook Strait's unique constraints mean it presents a higher risk of maritime incidents requiring an emergency response.
    - New Zealand, and other jurisdictions, have seen an increase in actual or near miss maritime events. This is particularly acute in the Cook Strait, which has a higher risk profile due to the geographic constraints, sea state conditions and types of vessels that use the passage.
- There are no vessels permanently based in New Zealand that have the capability to respond effectively to large vessels in distress.
    - To respond effectively in an emergency, there are certain requirements that a rescuing vessel would need to have. While any vessel can in theory help a vessel in distress, only certain types of vessels can effectively stabilise a vessel and tow it to shore. There are no vessels suitable for EORC permanently based in New Zealand.
- Larger, more capable vessels of opportunity which have previously been relied on to tow vessels in distress have left, or are leaving, New Zealand waters and cannot be relied upon in the future.
    - Vessels that are effective in EORC response have, in the past, been in New Zealand waters for other commercial opportunities and may be able to assist when needed. These vessels have either all left, or are being retained in the interim by the Crown to stay in NZ waters as a stop gap measure. They are unlikely to return to New Zealand in the near future. Without these vessels in NZ waters, it would take five days (in good weather) for an EORC vessel, most likely from Australia, to reach a stricken vessel.
- A lack of available EORC increases the risk of environmental and economic damage, and potential loss of life at sea in the event of an emergency, especially but not exclusively in the Cook Strait.
    - The risk of incidents escalating increases without EORC – for example, if a vessel loses power in parts of the Cook Strait it has a high likelihood of drifting into the rocks without a vessel to stabilise it. The key driver of this investment is therefore to reduce the risk of maritime incidents escalating. Severe incidents, for example the MV Rena grounding in 2012, are estimated to have cost the Crown and the New Zealand economy over $100m for cleanup and disruption. $700m for salvage of the vessel was borne by the vessels insurer. If a similar incident was to occur in the Cook Strait, it is likely to cost considerably more to the Crown for cleanup and disruption.
- While the risk to vessels in is particularly acute in the Cook Strait, EORC (particularly towage of a stabilised vessel) is a national benefit.

The DBC confirms the findings from the IBC that a lack of permanently available EORC in New Zealand poses a material risk that should be addressed.

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Economic Case

The IBC identified three shortlist options (plus the Status Quo) for the provision of EORC in the Cook Strait. Cabinet agreed that one of the IBC shortlist options, a Single-Strike capability, was not feasible because:

- There was little to no market interest in providing the capability
- It would have likely required year-round Crown funding for its operating costs, which represented very low value for money.
- Offered no redundancy for the capability and would leave the Cook Strait without EORC coverage if a Single-Strike capability was called to an incident elsewhere.

Cabinet agreed to remove this option from the DBC shortlist and instead focus on options that were operationally feasible.

This DBC reassesses those shortlist options against the:

- New technical information available;
- Actuarial risk analysis; and
- Indicative costings.

The three options included in the DBC are:

- *Option one: Do nothing / Status quo (retained as a baseline comparator)*
- *Option two: Local First-strike capability in the Cook Strait (do minimum option)*
- *Option three: Local First-strike and regional Second-strike capabilities (the preferred way forward)*

The economic case has undertaken more detailed options analysis to determine the preferred option likely to optimise the relative public value (not limited to value-for-money). The summary of this analysis can be found in Table 1.

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Table 1: Summary of Options Assessment

	Option 1: Status quo	Option 2: Do Minimum	Option 3: Optimal
Overall Rating	3	2	1
Costs			
Appraisal Period (years)	10 Year (2026-36)		
Max Opex Required ($m)	-	s 9(2)(j)	
Risk valuation ranking (Cook Strait only)	1=	1=	3
Risk valuation ranking (New Zealand)	2=	2=	1
IO / CSF alignment			
Investment objectives	Low	Med	High
Critical Success Factors	Low	Med	High
Benefits (qualitative):			
	Low	Med	High
Implementation Risks			
	Highest risk	Moderate risk	Lowest risk
Overall Rating	3	2	1

Summary of Economic Assessment

To assess the options against each other, Maritime NZ;

- Costed each option based on market feedback, independent marine specialist advice and general market knowledge.
- Commissioned actuaries to undertake risk valuation modelling to understand the relative value for money for each option.
- Qualitatively compared options against expected benefits, risks and investment objectives / critical success factors.

In comparing options;

- The actuarial risk analysis suggests that when looking at the Cook Strait in isolation, there is no material benefit in the addition of a local EORC capability compared to the Status Quo. This is because the likelihood of a severe event occurring that causes significant economic damage / risk to human life and requires EORC is very small.

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This means that from a risk valuation perspective, the Status Quo and Option 2 (First-strike only) provide the same 'value' to New Zealand.

- However, when viewed from a national lens, Option 3 (the preferred option) provides the greatest value as it can address both incidents in the Cook Strait and provide coverage nationally. We also know that, despite the actuarial analysis showing the addition of EORC in the Cook Strait is relatively low value, there have been a number of recent near miss incidents that could have resulted in a significant incident and changed the Cook Strait risk profile materially.
- Option 3 provides the greatest benefit and lowest risk of the shortlisted options due to its national coverage, improved incident response times, and redundancy (by having two vessels available).

Summary of the preferred option

The Economic Case confirmed that *Option 3: Local First-strike and regional Second-strike capabilities* continues to be the preferred option for the provision of EORC. Maritime NZ's preferred option at this stage is for:

- A Cook Strait based capability (e.g. Wellington or Picton) to stabilise and hold stricken vessels in distress in a timely manner (**First-strike**);
- A separate, national capability which can support the First-strike capability and arrive at an incident within an appropriate timeframe (exact response requirements to be determined, but anticipated to be within ~10-20 hours of the Cook Strait), with the capability to tow a stricken vessel in distress (**Second-strike**);
- A partnership between the Crown and private/commercial operators to ensure the capability is available when required;
- EORC vessels to be used for commercial or other activities when not required for emergency response to defray Crown operating costs and maintain operational readiness;
- Crown funding to be limited to a 'retainer style' arrangement and/or to cover the incremental capability uplift required to provide EORC, (response costs to specific accidents or incidents would continue to be recovered through existing measures e.g. insurance);
- A ten-year operating agreement (noting that this may need to be broken into smaller contract lengths and renewed as required); and
- The providers of EORC services to be responsible for operational decisions and engaging with vessels in distress on commercial matters(i.e. Vessel owners will be expected to liaise with the EORC providers on cost recovery, towage to a port of refuge etc, rather than via Maritime NZ).

The two-strike solution was selected as it: ensures the capability to stabilise a vessel in distress is based as close to the Cook Strait as possible, potentially preventing incidents from escalating; and removes the need to rely on vessels of opportunity to provide towage (in most situations) which may not be available. The Second-strike capability can provide a national benefit as it can be directed to other regions in New Zealand to support incident response if required and can also operate commercially with benefit to companies and New Zealand by positioning itself in the country where it is most needed.

The preferred option also takes into account the ability of the EORC to undertake commercial activities in the Cook Strait, as well as for operators to have knowledge of

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operating in the Cook Strait (due to its unique and challenging conditions). Maritime NZ is confident the two-strike solution maximises the ability of suppliers to use the ETVs for commercial activities when not responding to incidents. This reduces potential costs to the Crown/maritime users as alternative commercial activities can offset costs.

Commercial Case

Market engagement summary

Following approval of the IBC in November 2024, Maritime NZ, supported by KPMG and international maritime consultants ABL, completed a Request for Information (RFI) from December 2024 to January 2025. The RFI included detailed information on the potential options and technical specifications (outlined in the Commercial Case); and sought respondents' feedback on the preferred solution, including the proposed commercial arrangements, procurement approach, and potential cost ranges.

The RFI process confirmed a strong interest from the market in providing both the First-strike and Second-strike EORC solutions. Respondents confirmed that the two-strike approach is viable and sensible, and proposed some alternatives (including different levels of capability and operating models – discussed in more detail in the Commercial Case).

Procurement approach

The recommended approach to market is a single two-step, competitive tender for both First- and Second-strike capability. The two-step tender is intended to quickly assess the potential viable suppliers through a low-cost, open EOI, followed by a more in-depth closed RFP with a small group of selected participants. The EOI will set both a minimum required and a preferred capability for the First-strike and Second-strike (discussed below).

Maritime NZ will establish a minimum level of capability it requires in the EOI for both the First-strike and Second-strike. EOI responses that do not meet this minimum requirement will not be considered 'eligible' and will be excluded from further assessment.

First-strike minimum and preferred capability

Maritime NZ anticipates setting the minimum First-strike capability requirement on a real world scenario. At this stage the minimum First-strike capability is expected to be the ability to establish a connection and stabilise the Kaitaki in 45 knot winds and 4m swells (as is the current Interislander operating limit).

EOI respondents would need to confirm that they have assessed their proposal as meeting this minimum requirement. This confirmation would be independently assessed by Maritime NZ to determine whether it considers the bid eligible for further consideration.

In addition to the minimum capability requirement, Maritime NZ will also present its preferred capability to help guide bidders' responses at EOI/RFP. The preferred First-strike capability will be based on the preferred technical specifications set out in the Commercial Case. Based on these specifications, the First-strike capability would be able to operate in 40 knot winds and 5m swells and stabilise all but the largest vessels operating in New Zealand. Any proposals offering a lower capability than the preferred specifications would need to be accompanied by detailed analysis (completed by the bidder).

Second-strike minimum and preferred capability

The minimum Second-strike capability is anticipated to be based on the minimum capability outlined in Commercial Case (i.e. a minimum 100T bollard pull and 60m long vessel). The preferred Second-strike capability will be set at a level to 'future-proof' the capability (i.e. a

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minimum 120T bollard pull and a vessel length in excess of 60m). As with the First-strike, Any proposals offering a lower capability than the preferred specifications would need to be accompanied by detailed analysis (completed by the bidder).

Proposed procurement timeline

Appointed suppliers may need 12-18 months to secure a new ETV vessel and may need time to source an interim vessel while their permanent ETV is secured. An accelerated procurement timeline is therefore required to ensure EORC can be in place within a reasonable timeframe.

We estimate that the sourcing of the supplier will take up to four months and contract negotiations will take approximately two months. This means the tender must be issued by June 2025 to meet the dates shown in Table 2.

Subject to approval of this Detailed Business Case, the procurement milestones will be as follows:

Table 2: Indicative procurement timeline

Activity/milestone[1]	Date
DBC approved	March 2025
Decision on funding	May 2025
EOI release	Mid-May 2025
EOI responses received	Mid-June 2025
EOI evaluation complete	Early-July 2025
Respondents notified of outcome	Early-July 2025
RFP release	Mid-July 2025
RFP responses received	Mid-September 2025
RFP evaluation complete	Late-September 2025
Respondents notified of outcome	Late-September 2025
Preferred supplier(s) appointed	Late-September 2025
Contracts entered	March 2026

Commercial structure

Maritime NZ intends to leave the commercial structure relatively open to enable respondents to provide a wide range of solutions through the RFP process. The intention is to procure a capability/service, rather than see the Crown take on an ownership stake in a vessel or be responsible for day-to-day operational decisions (i.e., negotiating port access or specifying where vessels must be located – outside of maintaining agreed levels of coverage). Maritime NZ intends to model this structure on an 'as a Service' approach.

Maritime NZ has developed a preferred set of key commercial features at this stage (Table 3).

[1] Maritime NZ may also hold supplier briefings during the EOI/RFP process.

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Table 3: Key commercial features

Attribute	Comment
Overview	Maritime NZ invites proposals to provide First- and Second-strike capabilities consistent with the requirements set out in the Procurement Plan. Maritime NZ enters into a 10-year service agreement with the selected operator(s) to provide the services (noting the potential need to enter a shorter arrangement with the Second-strike operator). The operator(s) retains ownership of the vessel(s) throughout the agreement(s). The operator(s) is responsible for operating, crewing, maintaining, and ensuring availability of the vessels. Any required service enhancements (i.e., the installation of specialist EORC equipment) will be installed and maintained by the operator(s).
Role of Maritime NZ	Maritime NZ is responsible for: a. Procurement and contracting with the operator(s); b. Ongoing funding and payment under the contract; and c. Ongoing management of the contract, including ensuring service requirements are met.
Vessel ownership	The operator is responsible for providing the agreed capability. The Crown will not have an ownership stake in the capability/vessel. In the event the operator sells or leases a new vessel to deliver the services, the operator will be expected to provide a vessel of the same or greater capability.
Vessel berthing	Operators are expected to negotiate berthing space directly with ports. A portion of these berthing costs may be included in the Crown's payment depending on the exact commercial arrangement entered.
Vessel management and maintenance	The operator will manage the vessels and provide all ongoing maintenance.
Capability availability	The operator will be responsible for ensuring that the procured capability is available as agreed (i.e., for ensuring that services can continue to be provided while vessels are in dry dock for required maintenance etc). This includes being available for joint training exercises.
Crewing and training	The operator will be responsible for ensuring vessels are appropriately crewed and that the crew's training remains current.

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Attribute	Comment
Duration	Expected to be for 10 years (with renewal options), noting that Second-strike services may only be feasible to contract for a five-year initial term, with the option to extend by mutual agreement. The contract will set out the early termination rights and any associated penalties for both parties. Maritime NZ will not be liable for any costs associated with decommissioning the service at the expiry of the contract or on termination.
Service availability	The Crown's preference is for EORC to be available 24/7.
Quantum and phasing of costs	No upfront capital is required. Maritime NZ is responsible for an agreed Operating Expenditure amount for the duration of the agreement once the vessels are operational.
Inflation	Operating payments will be inflated in accordance with agreed index(es) (e.g. CPI, wage indexes etc).
Fuel	The mechanism for payment of fuel costs will be agreed with the supplier. Likely to be set with reference to market rates.

Financial Case

Maritime NZ proposes that the estimated total funding requirement of s 9(2)(j) [redacted] (including contingency) from 2025 to 2036, be sought through Budget 2025 as a tagged contingency. A 30% contingency has been applied given uncertainty over the exact capability that the market will propose, the level of commercial revenue operators are able to achieve (to defray Crown costs), and fluctuations in variable costs (e.g. fuel) over the life of the contract. All effort will be made to reduce the need for this contingency and to defray cost to Government by seeking to engage operators who can maximise commercial use of the vessel. We believe that a large amount of the cost to Government could be defrayed as part of the commercial negotiations as the commercial use of the vessels becomes more accurate. Between this, and some cost recovery from levy (see below), the amount actually needed from the Crown would be significantly reduced.

Cost recovery for EORC

At this stage we believe the Government could charge a modest fee/levy to passengers, passenger vehicles, and commercial users, travelling on the ferries on the Cook Strait to cover the cost of the first strike. We do not believe the first strike costs should be charged to other levy payers given the core purpose of the first strike is the ferry traffic across the Strait, it would be administratively difficult to do; and it may create perverse incentives for vessels to bypass Wellington harbour to avoid fees. If a user levy is implemented, Maritime NZ will return any excess tagged contingency to the Centre.

For second strike retention capability the Government could either fund this through Crown, or levy, or a mixed model. s 9(2)(f)(iv) [redacted]

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s 9(2)(f)(iv) [redacted]

There is a case for ongoing Crown contribution for the second strike capability, given:

- the size of the levy increase;
- that these operators have had significant increases across a number of levies recently;
- an operator who had an incident would still need to pay the direct costs for the ETV to assist it; and
- there is a public good benefit to the Government maintaining this capability around the New Zealand coast.

s 9(2)(f)(iv) [redacted]

Any charging of fees or levies for first and second strike would require regulation changes, need to meet OAG, Treasury and Transport funding principles, and be consulted on with the sector. Consultation should occur when there is greater certainty through the RFP of actual costs and could be implemented from 1 July 2027, when contingency funding on the interim model would run out.

Because of these timelines, the Crown will need to cover any costs until 1 July 2027.

Depending on the option agreed with Ministers prior to Budget 2025, Maritime NZ will reduce its Budget Bid accordingly. If confirmation of levy funding is not confirmed ahead of Budget 25, Maritime NZ will request that new Crown funding be held as a tagged contingency. If the full funding amount is not required, Maritime NZ will return any excess funding to the centre.

Table 4: Funding profile if levy funding is used for First and Second Strike

Funding profile with levy funding - preferred phasing												
NZ $'000	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30	FY30/31	FY31/32	FY32/33	FY33/34	FY34/35	FY35/36	Total
Crown funding													
Procurement costs			-	-	-			-	-	-	-	-	
Personnel costs													
First-strike - 0% Crown funding	-			-	-	-	-	-	-	-	-	-	
Second-strike - 50% Crown funding	-												
Total Crown Funding (excl. Contingency)													
Total Crown Contingency													
Levy funding													
First-strike - 100% levy funding	-	-	-										
Second strike - 50% levy funding	-	-	-	5,319									
Total levy funding	-	-	-										
Total levy contingency	-	-	-										
Total funding requirement													

All withheld under s9(2)(j)

The preferred funding pathway is included in the Management Case Implementation Plan below.

Accounting treatment

Maritime NZ intends to purchase EORC services from the market. It does not intend to purchase or have an ownership stake in any EORC assets. This helps manage any potential perceived conflicts that could arise from Maritime NZ's role as the regulator (by purchasing 'EORC as a service' and leaving operations up to the service provider) and is the simplest approach to implement from an accounting perspective. There is no need to account for any assets on Maritime NZ's balance sheet or seek funding for Capital Charge or Depreciation.

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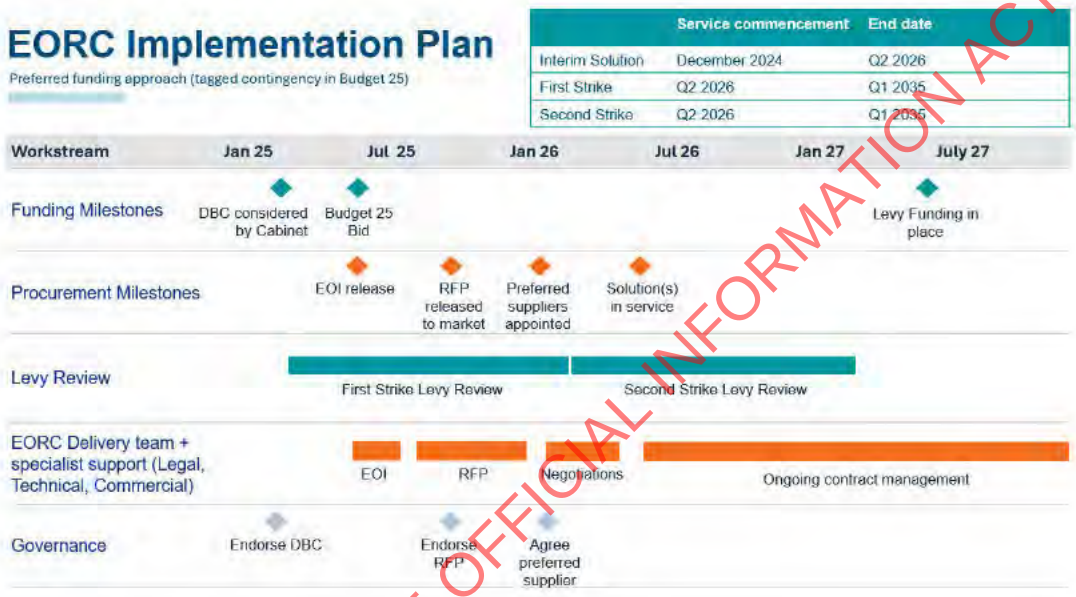
The cost of the contracted services will be treated as Operating Expenditure and will be paid from Maritime NZ's accounts unless another funding arrangement is agreed.

Management Case

The Management Case confirms the achievability of the proposal and describes the planning and control arrangements required to both ensure successful delivery of the project and its benefits and to manage project risks.

The timeline for the preferred way forward is set out below:

Figure 1: Outline programme plan



Next Steps

This Detailed Business Case seeks Cabinet:

1. Endorsement of the preferred way forward; and
2. Approval to submit a Budget bid for consideration as part of Budget 2025.

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Strategic Case

The purpose of the Strategic Case is to confirm the strategic context and case for change from the Indicative Business Case (IBC) and provide updated information where required.

Background and key context

The Emergency Ocean Response Capability (EORC) IBC was presented to Cabinet in November 2024. The IBC focussed on the case for change, initial options, and indicative costs based on Maritime NZ's initial analysis. The preferred approach presented in the IBC was a two-strike solution:

- A rapid first-strike response to hold and stabilise a vessel based in the Cook Strait; and
- A larger second-strike vessel that would be based close to the Cook Strait to tow a stricken vessel back to port.

Cabinet directed Maritime NZ to prepare a Detailed Business Case (DBC) for the provision of EORC. To support DBC development, Maritime NZ commissioned:

- Detailed independent Technical Analysis. The Technical Analysis, attached as Annex 1, includes:
  - Specifications for the "First-strike" and "Second-strike" ETV models, including vessel size, bollard pull, propulsion systems, endurance, and required equipment;
  - Recommendations on response times, geographical coverage, and vessel resilience in adverse weather conditions;
  - Comprehensive operational recommendations supported by bollard pull calculations and technical analysis; and
  - Overviews of funding mechanisms and commercial opportunities, including the integration of dual-use models for vessel deployment.
- Refined cost modelling, procurement advice, and benefits development; and
- A Request for Information (RFI) to understand the market's interest in providing services under the 'two-strike' solution and gather feedback on the technical specifications above.

This further analysis and market engagement has confirmed the 'two-strike' preferred option from the IBC as the preferred option for the DBC.

Scope of the Strategic Case

The underlying case for change has not materially shifted from the IBC. This DBC therefore confirms that the key drivers of investment into an EORC remain unchanged and that this investment continues to align to the Ministry of Transport and Maritime NZ's strategic objectives. The key constraints, dependencies, and assumptions remain the same as in the IBC and have not been included in the DBC. The reader should refer to the IBC for the above content.

The Strategic Case in the DBC provides:

- An introduction to EORC and the current arrangements in New Zealand;
- Key problem statements (updated from the IBC);

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- Confirmation of the Investment Objectives for the project; and
- An updated assessment of the key project benefits.

Strategic Context

EORC in New Zealand

Over the last five years, there have been approximately 23 incidents in New Zealand waters where an emergency rescue capability may have been required[2] or would have likely been deployed to reduce the negative impact of a vessel in distress. To date, these incidents have been responded to by commercial vessels in the area compelled to assist (known as vessels of opportunity); or harbour tugs, which can only operate effectively in limited conditions. There are opportunities to significantly improve New Zealand's response capabilities, increase the confidence in the availability of a vessel to respond, reduce the risk of incidents escalating, and mitigate the impact caused by these distressed vessels.

Why is EORC required?

Vessels can get into difficulty through, for example, loss of propulsion/steerage, fire or other mechanical issues. Such situations can quickly escalate and create the risk of injury, loss of life, environmental damage, and disruption to port and other activities. Serious events like this are becoming more common, and there has been a decline in the maintenance of ships in the post-COVID era, with the number of detainable deficiencies doubling in the Asia-Pacific region (i.e., 88 in 2019 to 177 in 2023).

There have been several more recent high-profile incidents which have required ocean going towage capability around the coast of New Zealand. For example, *La Richardias* (loss of engine propulsion), *the Shiling* (loss of engine propulsion), and the *Manahau* barge (required towage to remove it from grounding).

In the Cook Strait, there have also been a range of incidents - notably the *Kaitaki* (loss of power) in 2023, the *Aratere* (grounding), and the *Connemara* (loss of power) in 2024. These latter two incidents were fortunate to have not resulted in significant harm, to have occurred within harbour limits, and, in the case of the *Aratere,* to have grounded on a sandy bottom. In these events, small harbour tugs that are only designed to work in harbour limits, were the first response. It is unlikely these tugs would have been able to prevent the *Kaitaki* drifting into rocks (with potential for significant fatalities) and the tugs struggled to manage the *Connemara* incident and would not have been able to manage it if it was further into the Strait.

New Zealand primarily relies on commercial vessels of opportunity for ocean-going towage capabilities. However, access to these vessels is limited and not guaranteed. There is currently only one privately run ocean-going emergency towage vessel on the NZ coast, the *MMA Vision,* operated by OMV and based in Taranaki. With declining oil and gas activity, this vessel is only commercially operating a third of the time.

s 9(2)(ba)(i) [redacted] This would leave New Zealand with no vessel in our waters capable of towing large vessels and mitigating the risk of significant harms occurring, and able to assist in post-incident operations. The nearest response vessel would be a minimum of five days away in Australia.

[2] Where: Vessels are either over 100m in length or over 4000 tonnes in weight, within NZ's EEZ, and of an incident type that would indicate immediate assistance required.

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There is a growing public expectation that appropriate emergency arrangements will be in place to render assistance to vessels in distress and prevent loss of life, environmental, and/or economic damage.

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Below are some notable vessel incidents that either did or may have required EORC rescue operations; the *Kaitaki* and *Shiling* are discussed in further detail on page 31.

Table 5: Notable vessel incidents requiring EORC

Vessel	Date	Location	Description	Role of EORC
Aratere Cook Strait Ferry	21/6/2024	Cook Strait	The Aratere ran around near Picton after suffering a steering failure. No injuries were reported and the Aratere was pulled free and refloated the following day.	EORC ultimately wasn't needed to assist the Aratere as the vessel was grounded, within minutes, on sand, and the harbour tugs were able to pull the Aratere free. If the Aratere had grounded further along the shore on rocks, EORC capability likely would have been needed.
	13/2/2023	Cook Strait	The Aratere experienced a technical issue causing a partial loss of power as it approached the Tory Channel. The ship was quickly back to normal speed after the incident with tugboats awaiting at Picton to assist.	EORC was not required as the Aratere regained power by itself, but was only minutes away from grounding in the Tory Channel. Grounding would likely have required a second-strike capability to pull off rocks given the confines of the Tory Channel.
Connemara Cook Strait Ferry	19/9/2024	Cook Strait	The Connemara lost power during a late-night sailing and had to be towed back to Wellington Harbour after drifting for more than two hours. A second tug was used to provide steerage.	While harbour tugs were utilised, the tugs themselves were operating outside of their limits and were close to being 'swamped' – upright but filled with water. The crew required unscheduled stand down due to the extreme nature of the rescue, which resulted in flow on effects to port operations. In addition, if the incident had occurred further into the Strait it is unlikely these tugs would have been able to engage and tow the vessel. If a more capable First-strike ETV was available, this would have almost certainly been activated to mount a more safe and effective response.

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Vessel	Date	Location	Description	Role of EORC
Shiling container ship	12/5/2023	Cook Strait	The Shiling put out a mayday call after losing power and steering in the rough weather (8m swells). The crew were preparing to abandon the vessel, yet conditions improved following the mayday call and the vessel Master stated they were comfortable staying on the vessel.	The ocean-going tug *Skandi Emerald* from Port Taranaki was dispatched to assist the ship and was able to tow it back to Wellington. If the tug was stationed further away, or if the ocean conditions did not improve, the crew likely would have had to abandon the vessel, which would have likely collided with New Zealand coastline causing environmental damage.
	15/4/2023	Cook Strait	The Shiling was departing Wellington Harbour when it experienced a loss of propulsion and steering. As a result, the vessel veered off the recommended track and headed towards shallow water. The ship dropped anchor and maintained a secure position until it received assistance from tugs, which helped it reach a berth in Wellington.	Had the vessel continued into the shallow water and not anchor in time, the vessel likely could have grounded and required assistance from an EORC vessel.
Kaitaki Cook Strait ferry	28/1/2023	Cook Strait	The Kaitaki lost propulsion in rough conditions with gusts of up to 45 knots and swells of three meters around the entrance to Wellington Harbour. Both anchors were used to prevent drifting ashore and grounding. If the anchors didn't hold, the vessel was ten minutes away from grounding at Sinclair Head, with 860 passengers on board. Power was restored but it had to be accompanied by tugboats on its journey back to Wellington as a precaution.	Harbour tugs were deployed to assist the Kaitaki. However, they were unable to establish a connection or stabilise the ferry due to the wind speeds and wave heights. If a more capable First-strike ETV was available, it would have been deployed in place of the harbour tugs and would have been able to render assistance. This near miss would have had severe impact if grounding occurred, given the passengers on board and rough sea conditions.
	9/8/2023	Cook Strait	Steering issues arose on the Kaitaki when auto pilot failed. The vessel retained full steering control via backup systems. Once tugs became available, the vessel was able to berth at Kaiwharawhara.	While harbour tugs were able to assist the Kaitaki in returning to Wellington, had the vessel not regained steering control and grounded, EORC capability likely would have been required.

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Vessel	Date	Location	Description	Role of EORC
Achilles Bulker container ship	24/7/2023	Tauranga	The Achilles Bulker anchored off Mount Maunganui after its rudder fell off. The rudder was recovered by divers and brought to shore. The vessel was later assisted by tugs to be brought to a dry dock for repairs.	Harbour tugs were deployed because the ship was still located within the harbour. Had the incident occurred out at sea or in worse conditions, it would have been unlikely that the tugs could have stabilised or towed to safe anchorage.
Maersk Nansha container ship	28/1/2023	Tauranga	The Maersk Nansha's anchor started to drag due to high winds. Tugs were called to assist and contact with land was made to avoid grounding.	In this case, the harbour tugs deployed to secure vessel were fit for purpose. However, if a grounding had occurred, a more capable Second-strike ETV may have been required to assist.

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New Zealand's search and rescue (SAR) capability

New Zealand's legislative framework for addressing domestic and international maritime incidents at sea is established by the International Convention for the Safety of Life at Sea (SOLAS). SOLAS Chapter V Regulation 7 outlines that New Zealand must provide an SAR service for vessels in its area of responsibility as far as is deemed practicable and necessary.

Current regulations and search and rescue capabilities are sufficient to meet the requirements of SOLAS Chapter V Regulation 7. New Zealand has an SAR system that can respond to immediate requirements for the rescue of crew and/or passengers from a vessel in distress. However, the SAR system cannot currently provide a response that prevents incidents from escalating and increasing the risk of environmental damage, loss of life, or the loss of the vessel if it founders.

In addition, while New Zealand maintains an oil pollution response capability, any response dealing with oil or post-event response capability will take some time to mobilise, and the ability to hold a vessel until it can be managed safely from an environmental perspective is also important.

Preventing significant maritime incidents in New Zealand's coastal waters from escalating requires an EORC. For the purposes of this business case, EORC is defined as the ability to stabilise and/or tow a large vessel in distress outside harbour limits until it can be dealt with safely.

Why the focus on the Cook Strait?

Having EORC available somewhere along the New Zealand coastline is critical but is not enough on its own. It needs to be available close enough to an incident to be able to render assistance in a relevant timeframe. As discussed later, the only current vessel of opportunity is based in Taranaki supporting the oil industry and can take up to 12 hours to transit to the Cook Strait (the highest risk region in New Zealand) in the event of an emergency.

Given the recent high profile incidents involving vessels in distress, the unique geographic features, extreme weather conditions, and the high passenger volumes in the Cook Strait (discussed later in the Strategic Case), Ministers directed Maritime NZ to consider EORC options focused on the Cook Strait as part of this business case. The business case also seeks to ensure that any capability can also, where appropriate, mitigate broader risks and provide wider benefits to New Zealand's overall access to EORC. Incidents in regions like Taranaki and the Marlborough Sounds highlight the need for flexible, deployable capabilities that can address risks across the country, even while maintaining primary coverage for the Cook Strait.

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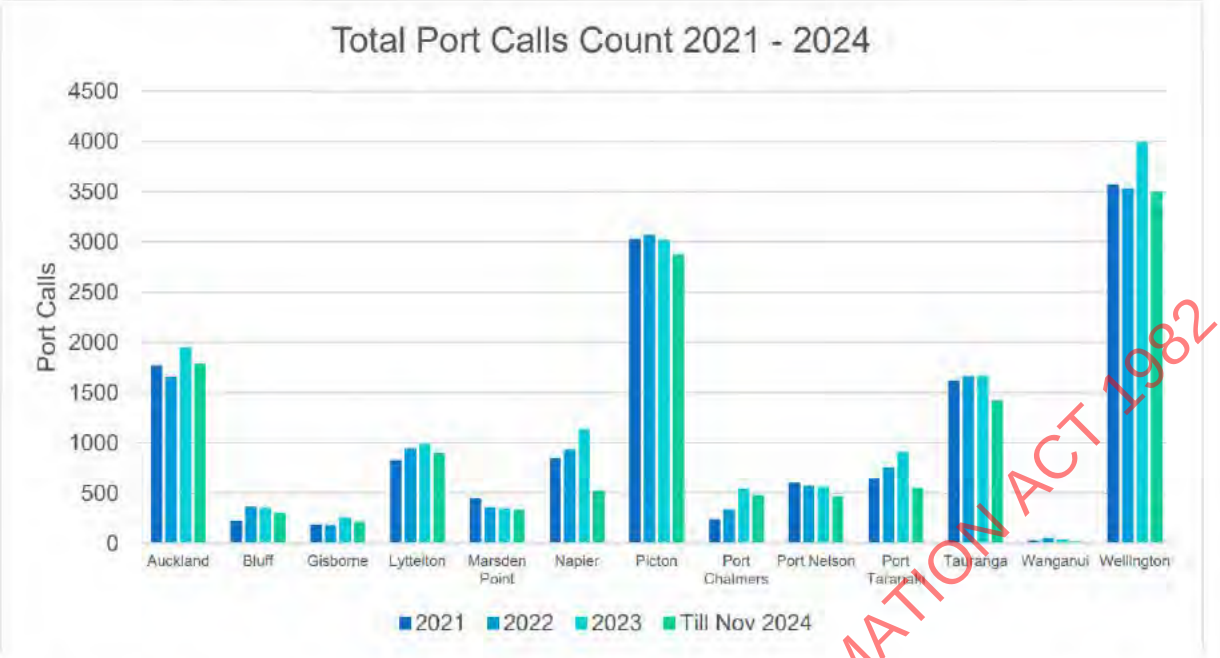

Figure 2: Graph showing total port calls by vessels around New Zealand between 2021-24

The above data captures the port call data for New Zealand from 2021 to 2024. It shows Picton and Wellington, the two ports that require entry to the Cook Strait to access, represent most New Zealand port calls. Overall, there has been a steady increase in the total number of port calls from 2021 to 2024 (taking into consideration that the data for 2024 is not for a complete year).

Wellington consistently records the highest number of port calls, driven predominantly by Cook Strait passenger vessels. In 2023, it registered 3,995 calls, with passenger vessels contributing significantly. Picton follows closely, largely due to its role as a key hub for inter-island ferry transportation, with passenger traffic forming the bulk of its activity. Typically, 1.2 million passengers travel on the Cook Strait ferries each year, with this projected to grow to 1.7 million within 20 years. Over 400,000 of these trips have been taken by international visitors.[3]

Passenger traffic continues to form a significant part of port activity, particularly in Wellington and Picton, which support both domestic ferry routes and cruise ship operations. Cruise ships visiting New Zealand often call at ports across the country, including those near the Cook Strait. Due to limited berth space in some ports, these vessels frequently anchor offshore and tender passengers to the port as part of their call.

Number of port calls, type of vessel (e.g. passenger or cargo) and sea state conditions are significant contributors to the overall risk profile of an area. As discussed later in the Key Problem Statements section of the Strategic Case, the Cook Strait has the highest risk profile for incident because of these factors, therefore this business case focusses on capability to service this area in the first instance.

Ferry operations through the Cook Strait continue even in challenging weather conditions, with significant wind and sea state impacts – including gale and near gale conditions (Figure

[3] KiwiRail. (2021). *Interislander Ferries and Terminals. Detailed Business Case.* 11_Detailed-Business-Case_Interislander-Ferries-and-Terminals.pdf

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3). The findings emphasise the importance of considering such adverse weather scenarios in the planning and deployment of ETV. Any ETV operating in this region must be equipped to function effectively under these conditions to ensure reliable response capabilities during emergencies.

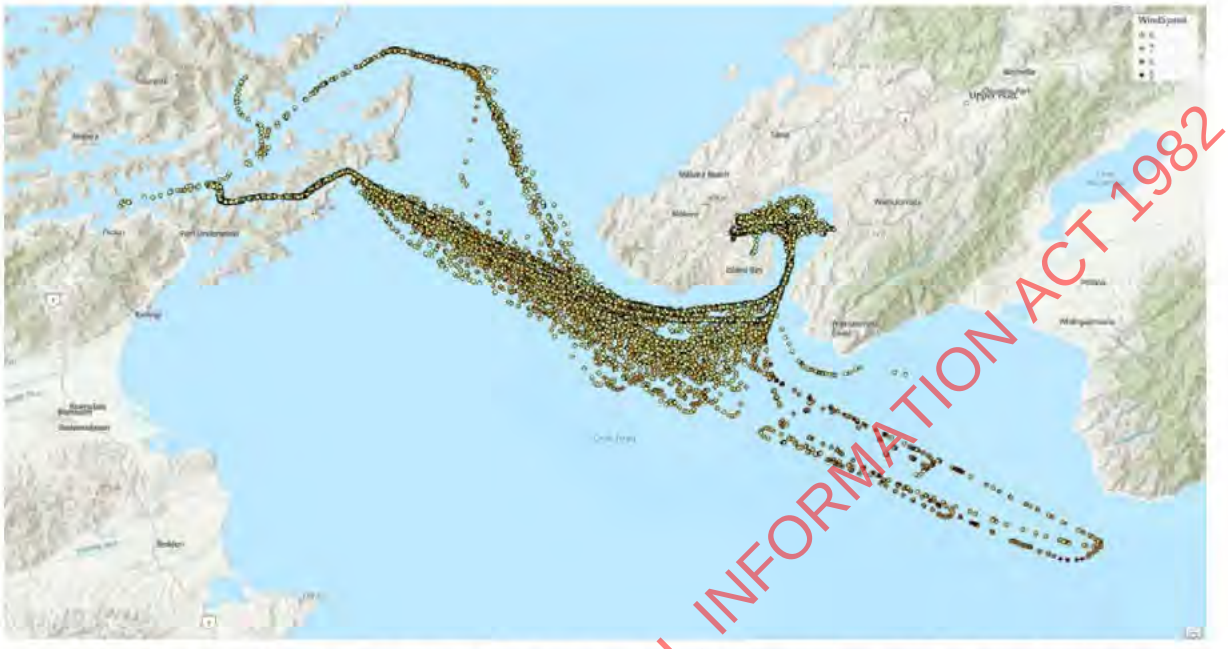

Figure 3: Data from Passenger Vessels (including ferries) during August and September 2023, sailing in weather conditions beyond Beaufort 6 (Near Gale).

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Ability of the New Zealand Defence Force to provide EORC

Maritime NZ consulted with the Ministry of Defence on potential roles for the New Zealand Defence Force (NZDF) in the provision of EORC in the Cook Strait or New Zealand more broadly. The Ministry of Defence confirmed that there is no current or planned EORC within NZDF and that providing EORC is not viable or feasible for the NZDF given:

- A core requirement is that an EORC vessel stays in NZ waters (and potentially in the Cook Straight only) which limits the use of the vessel;
- Crew training for EORC is specialised, and it will be difficult to ensure Navy personnel can keep their EORC training current if they are not regularly required to perform EORC-related tasks;

s 6(a) [redacted]

- New vessels would need to be procured to provide these services and no funding has been allocated to this.

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Key problem statements

Four key problem statements with the current provision of EORC capabilities in the Cook Strait were developed in a facilitated workshop in July 2024, and confirmed following the submission of the IBC in October 2024. These problem statements remain unchanged for the DBC, however they have been updated to reflect additional analysis and information received since the IBC.

The four problem statements reflect the rationale underpinning this DBC and inform the Investment Objectives (discussed on page 36).

The problem statements focus primarily on the Cook Strait. This is due to:

- The Cook Strait having a high-risk profile for maritime incidents potentially requiring EORC;
- The Cook Strait being of high public interest due to recent maritime incidents; and
- Ministerial direction and the Budget appropriation for this work specifying an EORC in the Cook Strait.

It is critical that any EORC capability proposed should also, where appropriate, mitigate the significant risk around New Zealand's coast relating to the potential future lack of ocean-going towage capabilities and increasing risk. Any investment which results from this business case could also form the basis for a future national EORC strategy.

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Problem statement 1: The Cook Strait's unique constraints mean it presents a higher risk of maritime incidents requiring an emergency response.

New Zealand, and other jurisdictions, have seen an increase in actual or near miss events which have highlighted the lack of ocean-going towage capability in the vessel fleet across New Zealand. This need is particularly acute in the Cook Strait.

Cook Strait specific considerations

The Cook Strait is considered the highest risk region in New Zealand for a large vessel navigational incident.

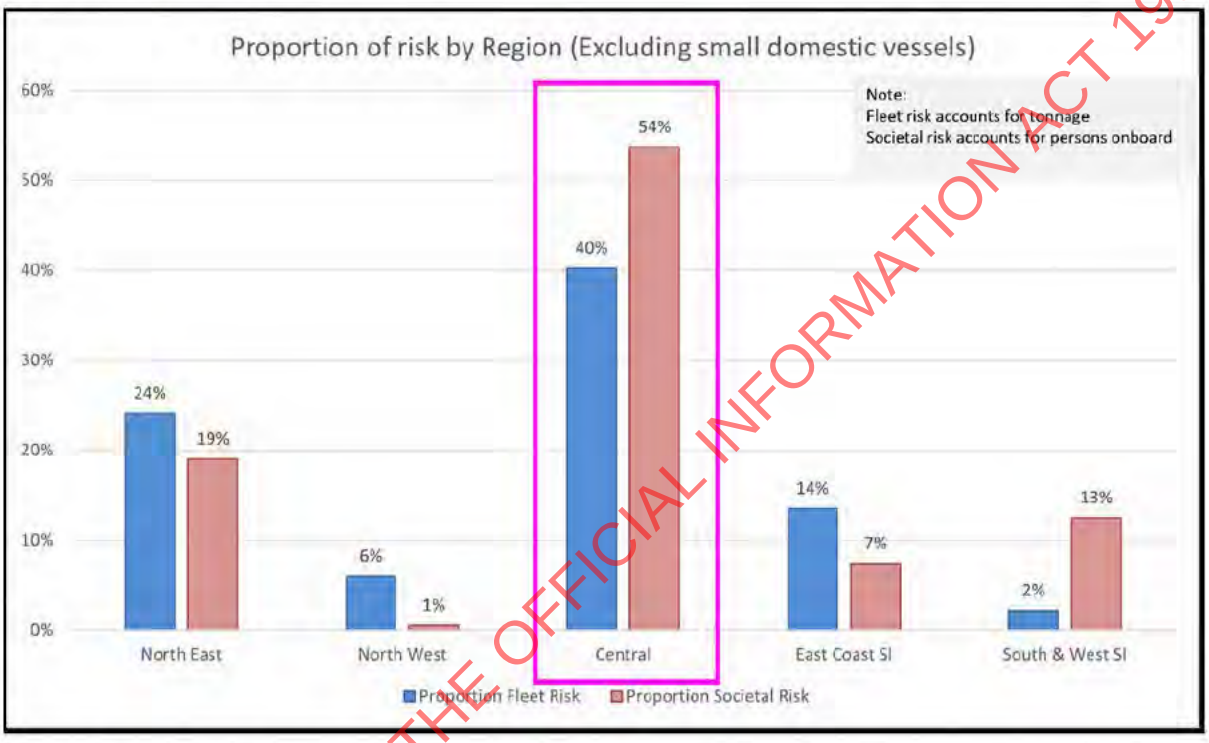

Figure 4: 2015 New Zealand large vessel navigational risk profile by Navigatus. This shows, relative to the rest of the country, the Central region (Cook Strait and surrounding areas) has the highest risk of large vessel navigational incidents. This is due to the sea state conditions, types and frequency of vessels and passenger numbers.

The Cook Strait is at an increased risk likelihood and risk impact for maritime incidents because of its:

- *Constrained geographic environment*

  With narrow entry points in the Marlborough Sounds (via the Tory Channel) and Wellington harbours, the likelihood of a vessel without power grounding is higher. A 2020 navigational risk assessment of the Tory Channel by GBT International found that there are several risks associated with passage through the entrance of the Tory Channel, including grounding and/or collision with other vessels or stationary objects. The review found these risks are managed 'reasonably well', but that residual risk will always remain, given that navigation in the areas are "*challenging, even for experienced navigators*".

  The frequent gales and the high incidence of wind-driven swells coupled with limited sea room make navigation in Cook Strait particularly challenging. Localised magnetic

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anomalies near submarine cables contribute additional navigational challenges, necessitating precise instrumentation and vigilant monitoring.

The Cook Strait is a significant and key navigational corridor that separates New Zealand's North and South Islands, linking the Tasman Sea to the Pacific Ocean. The Cook Strait's varying water depths and dynamic physical features make it a challenging maritime route. Depths in the strait range significantly, as displayed in Figure 5, with shallower regions such as those near the Marlborough Sounds and the Kapiti Coast often being less than 30 meters, while deeper channels, including the central parts of the strait, can exceed 200 meters in depth. These depth variations require careful navigation, especially for larger vessels or those with deep drafts.

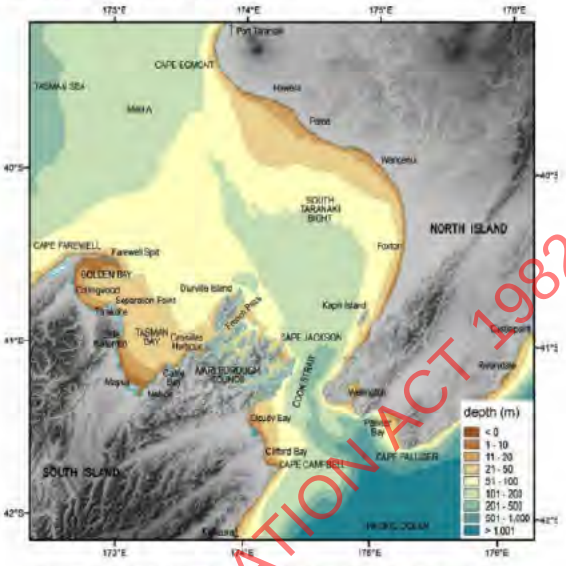

Figure 5: Water depth in Cook Strait

The presence of submarine cables adds to the complexity of maritime activities in the region. These cables, crisscross the strait, particularly between areas like Oteranga Bay on the North Island and Fighting Bay on the South Island. These zones are marked on nautical charts, and vessels are required to steer clear of them, which limits navigable waters also taking into consideration the anchoring and fishing grounds.

Additionally, the rugged coastlines of the Cook Strait provide limited options for safe anchorage. Locations such as Queen Charlotte Sound and Wellington Harbour offer refuge but are distant from the central part of the strait. These physical and environmental characteristics make the Cook Strait a uniquely demanding maritime corridor.

- *Constrained response times*

  Incidents can escalate rapidly, particularly in poor weather conditions. The ability to quickly arrive at a stricken vessel and render assistance is key to preventing an incident escalating and increasing safety, environmental, and economic risks. If a response vessel is required to travel several hours to render assistance, it may be too late to prevent stricken vessels drifting, grounding, or becoming further endangered.

  The Cook Strait is a high-risk area because any vessel that requires EORC is likely to get into trouble in the Cook Strait itself. There are no EORC capable vessels based in the Cook Strait. Any rapid capability currently needs to come from Wellington Harbour or the Marlborough Sounds. This could take one to two hours and (depending on the size of the vessel and the weather conditions) may not be able to render assistance in time to prevent incidents escalating.

  Highly capable ETV(s) are currently only operating in Taranaki. These are too far away to provide a rapid response to an incident.

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- *Sea state conditions*

  Heavy seas, strong tidal flows and high winds make it higher risk to cross the Cook Strait than other parts of New Zealand. It also means that if a vessel gets into difficulties in rough weather, the time available to mount a response is significantly reduced as vessels could ground before assistance arrives.

  Sea conditions also impact the ability of inner harbour tugboats to reach the Cook Strait in certain conditions. For example, strong southerly swells could prevent small tugboats from reaching the Cook Strait at all.

  Cook Strait experiences an average of 25 gale force wind events annually, making it one of the most gale-prone areas in New Zealand. These gales predominantly occur due to strong northwest (NW) and south-southeast (SSE) winds that are funnelled through the strait, amplifying their intensity.

  The South Coast around Wellington (based on recordings at Baring Head and Wellington Airport) has an average of between 166 and 255 days a year where wind gusts exceed 34 knots (Sustained winds at this level are Beaufort 8 – gale force, which exceed the upper limit of harbour tugs for emergency response), and between 24 to 72 days pa where wind gusts exceed 52 knots.[4]

  The Cook Strait has frequent days with high wind gusts which significantly impact the ability of ETVs to successfully connect with and stabilise vessels. While there is limited information on average wave heights in the Cook Strait, sustained winds of 34 knots are correlated with 5m swells. Based on the frequency of high wind days, it is reasonable to expect that any response capability could encounter waves in 5m range.

  As an example of international approaches to sea state limits, the Port of Dover limits operation of its tugs once the swell height inside the harbour reaches 1.5m[5]. The harbour tugs that responded to the *Kaitaki* mayday in 2023 were unable to secure a connection and render assistance in 45 knot winds and 3m swells. This suggests that the current rapid response capability in the Cook Strait reaches its limit between approximately 1.5m and 3m swells. The annual occurrence of gales underscores the need for vigilance in this critical maritime zone. Sea state conditions in Wellington are discussed in more detailed in the Technical Report in Annex 1.

- *Types of vessels*

  The frequency, age, and profile of vessels (i.e., cruise ships and passenger ferries) that cross the Cook Strait make it high risk to both the likelihood and impact of a maritime incident. If the current KiwiRail Interislander and StraitNZ Bluebridge fleets are replaced, this may reduce the likelihood of an incident occurring due to aging vessels, but will not materially affect the other risk factors. It would also be expected that brand new vessels could have an increased risk for incidents as they enter service. Even with new Interislander vessels, the risk in the Cook Strait will remain significant and much greater than other areas in New Zealand. There is also a need to maintain some emergency ocean going capability more broadly on the New Zealand coast. Risks arising from ageing and poorly maintained vessels are also present across the New Zealand maritime industry. The *Shiling* and *Manahau* incidents highlight the need to consider EORC options that also mitigate risk beyond the immediate Cook Strait area.

[4] Chappell, P. R. (2014). The Climate and Weather of Wellington. *Niwa Science and Technology Series. 65*(2), 15. Wellington_Climate_WEB.pdf

[5] *Port Information – Safety & Emergency*. (n.d.). Port of Dover. Port Information - Safety & Emergency Limitations

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Recent high-profile incidents, five involving foreign vessels and two major incidents involving Cook Strait passenger ferries, have demonstrated the increased risk in the Cook Strait, and highlighted the use case for EORC in New Zealand. Two examples are illustrated below:

- **Container ship MV *Shiling* (2023):** The 290m *MV Shiling* was involved in three separate incidents in which the vessel was at risk of capsizing and running aground, was making unusual movements, and broke down with 24 people on-board. The *MV Shiling* was assisted in these incidents by the *Skandi Emerald,* another available commercial vessel with EORC based in Taranaki. Without the EORC provided by the *Skandi Emerald*, there was a risk of loss of life of those on-board or significant environmental impacts if the *Shiling* ran aground. It was subsequently towed back to Wellington with no loss of life or pollution caused. The *MV Shiling* was then escorted by the *MMA Vision*, a vessel also capable of emergency ocean towage, until 200 nautical miles off the New Zealand coast. The *Skandi Emerald* left New Zealand waters after its commercial contract ended, and the MMA Vision is expected to leave New Zealand in mid-2025.
- ***Kaitaki* Interislander ferry (2023):** The inter-island ferry *Kaitaki* issued a Mayday after it lost power with 864 passengers onboard. While propulsion was eventually restored, the vessel came within 12 minutes of running aground, which would likely have resulted in significant environmental damage and potential loss of life. In this case, while Wellington based harbour tugs were present, it is highly unlikely that they would have been effective in preventing the *Kaitaki* grounding due to high winds and rough sea conditions. When the *Kaitaki* lost power, the harbour tugs were unable to assist in conditions with gusts of up to 45 knots and swells of 3 metres (they were unable to safely establish a connection due to wave heights). An EORC, described by the options in this business case, would have been able to stabilise the vessel if its engine propulsion wasn't restored and prevent it from grounding.

Problem statement 2: There are no vessels permanently based in New Zealand that have the capability to respond effectively to large vessels in distress.

New Zealand does not have any vessels permanently in our waters (i.e., vessels which will not leave after their commercial arrangements cease) that can respond effectively to large vessels in distress. There are few incentives for private operators, such as ports, to maintain the vessels or trained crew required for EORC. EORC vessels (with the capability to tow large ferries or container ships in rough sea conditions) are generally not suitable for inner harbour tug operations and have limited commercial usefulness outside of emergency response.

The only vessels with towing capability permanently based in New Zealand are harbour tugboats. These tugboats are capable of handling most day-to-day harbour towage needs. However, they do not have the capability to hold or tow large vessels in the open ocean, or operate in adverse ocean weather conditions due to the:

- Limited stern and short aft (rear) deck, which means that in adverse conditions, the vessel can get swamped (i.e., still upright but filled with water);
- Shorter length of the tugboats mean it is harder to control bigger vessels – and can lead to excessive pitching (i.e., movement up and down), poor directional control, and reduced Bollard Pull (i.e., the force to pull the vessel); and

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- Limited fuel and water capacity, and crew accommodation, which prevents smaller tugboats from remaining at sea for longer periods.
- Lower height, smaller size, and need to tow in reverse making the forces experienced during large swells more severe, and therefore have a much lower capability in the open ocean.

A comprehensive analysis of bollard pull (pulling power) requirements for maintaining station (holding) and towing operations under varying environmental conditions has been completed as part of this DBC.

Bollard pull is the effective pulling power of a vessel and is the industry standard for understanding how much force is required to hold or tow a vessel in certain conditions. Bollard pull is a complex calculation but two key factors, (Table 7) are the size of vessel, and the sea state conditions (wave height and wind). This combination of factors means that even though some harbour tugs have a high bollard pull, their effective bollard pull is much lower as they are unable to operate in conditions with high waves or strong winds.

Table 6 and Table 7 show the names details of the largest ships to call into New Zealand by class and the bollard pull (pulling power) that is required for each of these ships. Note that even the lowest bollard pull requirement (to stabilise the Kaitaki in 30 knot winds and 4m swells) would exceed the operating limits of a harbour tug due to wave height restrictions.

Table 6: Names and details of the largest ships to call into New Zealand in each vessel type from Jan 2021 to Nov 2024

Name	Vessel Type	Gross Tonnes (GRT)	Length Overall (m)	Breadth Moulded (m)	Maximum Draught (m)	s 9(2)(ba)(i)
Taharoa Destiny	Bulk Carrier	90267	290.4	45	18.31	
Cape Jasmine	Bulk Carrier	91349	292	45	18.32	
MSC Freya	Container Ship	150783	366	51	15.6	
Sovereign Maersk	Container Ship	92198	346.98	42.8	14.53	
Nicolaos	Crude Oil Tanker	84795	274.19	50.04	17.15	
Ephesos	Product Tanker	84851	274	50	17.15	
Diamond Princess	Passenger	115906	290	37.5	8.3	
Celebrity Edge	Passenger	130818	306	39	8.4	

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Table 7: Bollard pull summary for biggest ships in each sector calling New Zealand ports

Vessel Name	Type	Bollard Pull (Hold Station) (40 kts, 5m Hs)	Bollard Pull (Hold Station) (30 kts wind, 4m Hs)	Bollard Pull (Towing 3 Kts) (25 kts wind, 3m Hs)	Bollard Pull (Towing 4 kts) (20 kts wind, 3m Hs)
Taharoa Destiny	Bulk Carrier	80.0	56.2	106.5	149.5
Cape Jasmine	Bulk Carrier	83.8	59.1	108.6	150.9
MSC Freya	Container	127.1	82.6	125.1	159.4
Sovereign Maersk	Container	116.0	77.1	104.0	128.9
Nicolaos	Tanker	80.9	57.3	110.0	155.4
Ephesos	Tanker	80.9	57.2	109.9	155.3
Diamond Princess	Passenger	124.6	79.9	81.2	85.6
Celebrity Edge	Passenger	125.3	80.5	82.0	87.3
Kaitaki	Passenger Ferry	64.9	42.7	38.2	40.8
MAXIMUM BOLLARD PULL		**127.1**	**82.6**	**125.1**	**159.4**

The analysis tells us that:

- To hold/stabilise the largest commercial vessel in New Zealand waters since 2021 (MSC Freya), you would need a bollard pull of 82.6 tonne in average weather conditions, and 127.1 tonne in extreme weather conditions.
- To tow the largest commercial vessel in New Zealand waters since 2021 (MSC Freya), you would need a bollard pull of 125.1 tonne in average weather conditions, and 159.4 tonne in extreme weather conditions.

In both of these cases, it is highly unlikely that any vessel based permanently in New Zealand could have performed the hold and towage necessary if an emergency were to occur. As evidenced by the near grounding of the *Kaitaki* in 2023, harbour tugs cannot be relied on in adverse weather conditions or where large vessels require support outside of harbour limits.

Problem statement 3: Larger, more capable vessels of opportunity which have previously been relied on to tow vessels in distress have left, or are leaving, New Zealand waters and cannot be relied upon in the future.

In the past, many traditional tugs were able to operate in open water conditions and undertake ocean tow duties in poor conditions if required. Access to these traditional tugs in many jurisdictions, including in New Zealand, has declined sharply in recent years with the shift to more specialised harbour tugs. The reduction in offshore oil and gas activity in New Zealand also means that suitable commercial vessels are increasingly no longer available.

Some jurisdictions have access to sufficient commercial towing capable vessels to draw on in situations needing emergency towage, including contract vessels 'on standby' (e.g.

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covering 'high risk' coastlines), but many other countries are facing similar issues to New Zealand.

At present, New Zealand relies on 'vessels of opportunity' to tow large vessels in distress in the Cook Strait, and elsewhere in New Zealand. Vessels of opportunity are commercial vessels that can be requested to provide emergency ocean towage in the event of an emergency (often at a cost paid for by a stricken vessels insurer). Theoretically, there are two types of 'vessels of opportunity':

a) Single-strike: A vessel capable of being the first responder on the scene and holding, and in a narrow range of situations towing a large vessel in distress.

b) Second-strike: A vessel that is capable of towing the larger vessel to a place of safety. To be effective, a Second-strike vessel must have crew qualified and experienced in ocean-going towage and operating regularly so they are ready to mobilise. These are only ever likely to be based where there is a commercial need to tug large vessels like in the oil and gas sector, or in the future in areas like off-shore wind farms. This means they are unlikely to be operating in the Cook Strait and available to respond immediately.

There were previously two ocean-going towage vessels based in Taranaki that could provide the Second-strike response, i.e., large enough and with sufficient bollard pull to be able to tow ferries and large cargo vessels safely to port. Should the remaining vessel leave New Zealand, the nearest equivalent vessels able to respond would be in Australia. Support could therefore take more than a week to be on station to assist in our waters.

The reliance on "vessels of opportunity" has narrowly avoided worst case scenario events to date. However, the loss of ETV-capable Oil & Gas support vessels means this option will not be available in the future. Furthermore, these vessels are often located too far away to provide a fast first-strike response in high-risk areas like the Cook Strait. Recent incidents, such as the near grounding of *Kaitaki* Ferry and the breakdown of *MV Shiling*, have highlighted the challenges in the maritime response, emphasising the importance of strengthening a dedicated EORC system to mitigate risks effectively.

s 9(2)(j)

[redacted]

Problem statement 4: A lack of available EORC increases the risk of environmental and economic damage, and potential loss of life at sea in the event of an emergency, especially but not exclusively in the Cook Strait.

With the risk of maritime incidents heightened in the Cook Strait, so are the impacts if an incident occurs. Without rapid response capability that can stop a large vessel in distress from grounding or capsizing, impacts can include:

- Injury or loss of life to passengers and crew; impacts exacerbated by volume of passengers transiting the Cook Strait;
- Cargo falling from the ship and onto the surrounding waters and coastlines; impacts exacerbated by the closeness to shore in the Marlborough Sounds;
- Fuel, and other dangerous goods, spillage from the ship onto the surrounding coastlines; impacts exacerbated by the marine reserves and habitats in the coastline around the Cook Strait; and

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- Loss of economic activity for the vessel.

Without a close specialist towage capability (i.e. capability traditionally provided by vessels of opportunity in the oil and gas sector) to tow vessels back to shore, impacts can include:

- Lost economic activity for the vessel, including impacts to any passengers or cargo on board as a result of lengthy delays;
- Loss of access to coastal areas during and after a response; and
- Lost economic activity for other Cook Strait users.

These risks are also present to a lesser degree across New Zealand coastal waters.

Impacts of a ship grounding: MV Rena

The MV Rena, a 236-metre container ship, ran aground on the Astrolabe Reef off the East Coast of New Zealand on October 5, 2011, causing a significant environmental and economic impact to the region.

The resulting oil spill led to the release of hundreds of tonnes of heavy fuel oil into the ocean, leading to widespread pollution of the marine environment and beaches. This contamination had severe implications for marine life, including seabirds and marine mammals, and caused long-term damage to the region's ecosystems.

The grounding also had a considerable economic impact on the affected area, particularly the tourism and fishing industries. The polluted beaches and waters significantly impacted the local tourism sector, through a decline in visitor numbers and revenue, and disrupted fishing activities in the region until the oil spill could be cleaned up.

The total salvage operation cost $700 million ($948 million in 2024 dollars), with $46 million ($62 million in 2024 dollars) footed by the Crown. An academic study in 2021, estimated non-salvage costs to the New Zealand economy at $99 million to $115 million ($113 million to $131 million in 2024 dollars).

While EORC would not have prevented this incident, it nonetheless highlights the impact of a large vessel grounding and breaking apart.

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Investment Objectives, existing arrangements & business needs

Investment Objectives

The IBC established three investment objectives for the project. These investment objectives are still fit for purpose and are included unchanged in the DBC. The three Investment Objectives (in order of priority) are:

- **Investment objective one: To reduce the risk of a major maritime incident in the Cook Strait, and more broadly in New Zealand, leading to loss of life and/or damage to the environment.**
- **Investment objective two: To ensure an EORC solution is capable of safely stabilising vessels in the Cook Strait and that there is access to a large towage vessel in adverse conditions on our coast.**
- **Investment objective three: To ensure that an EORC solution is able to respond to an incident in the Cook Strait in a timely manner.**

Figure 6 sets out the current state of performance against each Investment Objective (the existing arrangements) and what Maritime NZ needs to do to support achievement of the Investment Objectives (business needs). The existing arrangements and business needs set the broader context for each Investment Objective and identify those areas that may need to be addressed as part of the options development.

Figure 6: Investment Objectives, existing arrangements & business needs

Problems	Investment objectives			Benefits
		EXISTING ARRANGEMENTS	BUSINESS NEEDS	
PROBLEM 1: There has been an increasing number of high-profile incidents requiring an emergency response in the Cook Strait and more broadly in New Zealand.	**INVESTMENT OBJECTIVE 1:** To reduce the risk of a major maritime incident in the Cook Strait (and more broadly in New Zealand) leading to loss of life and/or damage to the environment.	The Crown currently relies on vessels of opportunity to provide EORC in the event of a significant maritime incident. The Crown does not play a role in the provision of these services. Any costs being covered by the stricken vessel's insurer. There are currently no vessels based permanently in New Zealand that can provide rapid EORC to prevent incidents from escalating.	Maritime NZ needs to ensure that the capability is in place to prevent maritime incidents from further escalating and increasing the risk of loss of life, environmental, or economic damage.	**SAFETY:** The safety of maritime users is enhanced in the event of a significant maritime incident in the Cook Strait, with broader benefits to other vessels on our coastline.
PROBLEM 2: Existing port-owned tugboats do not have the capability to respond to large vessels in distress in the Cook Strait.	**INVESTMENT OBJECTIVE 2:** To ensure an EORC solution is capable of safely stabilising vessels in the Cook Strait and that there is access to a large towage vessel in adverse conditions on our coast.	Existing harbour tugs are sufficient to provide inner harbour services. However, they are not suitable for stabilising or towing large vessels in distress in ocean conditions, or large vessels which have grounded (i.e., in the Marlborough Sounds or Wellington's south coast). Although harbour tugs have responded to the recent Connemara and Aratere incidents, this was only because Connemara was within the harbour, and Aratere was lucky enough to ground on soft sand.	Maritime NZ needs to ensure that an EORC solution is sufficient to be able to respond to large vessels in distress in adverse conditions.	**ENVIRONMENTAL:** The environment is protected by rapid response to prevent accidents (such as vessels running ashore) or minimise the damage resulting from incidents.
PROBLEM 3: Vessels of opportunity which have previously been relied on to tow large vessels in distress have left, or are leaving, New Zealand waters and cannot be relied upon in future.				**FINANCIAL AND PHYSICAL CAPITAL:** Direct costs to ships for repair and maintenance as a result of incidents in the Cook Strait is reduced.
PROBLEM 4: A lack of suitable EORC in the Cook Strait (and more broadly in NZ) increases the risk of environmental and economic damage, and potential loss of life at sea in an emergency.	**INVESTMENT OBJECTIVE 3:** To ensure that an EORC solution is able to respond to an incident in the Cook Strait in a timely manner.	The capability to tow large vessels in distress has been limited to anchor handling vessels servicing the Taranaki offshore oil market. An EORC vessel based in Taranaki can take up to 12 hours to reach the Cook Strait depending on speed and sea conditions. This is too long to provide a first response capability. There is no reliable, ready to go, first response capability for large vessels outside the harbour limits that could deal with adverse conditions.	Maritime NZ needs to ensure that there is sufficient EORC available in the Cook Strait within an appropriate timeframe.	

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The investment objectives identified above, collectively improve the effectiveness of New Zealand's maritime response capability by reducing risk in our busiest stretch of water (by passenger volume). They are preventative in nature. The overall outcome sought is the ability to respond in a timely, safe, and effective manner to stricken vessels in the Cook Strait, and the ability to tow heavy vessels to the nearest port of refuge and repair. This can be measured by exercising and testing the EORC capability to ensure that it is currently, and remains, able to deliver these objectives.

A detailed technical report commissioned by Maritime NZ and delivered by ABL (a global marine consultancy firm), discusses the technical requirements needed to deliver on these outcomes. The report also discusses the likely types of vessels that could meet these requirements. The technical report is attached in Annex 1.

Main benefits

Potential benefits from this investment represent the intended (and sometimes unintended) gains for stakeholders. Most benefits derive from preventing, or limiting the damage of, a significant maritime incident such as a grounding for the stakeholders that are affected by an incident. These include:

Table 8: Primary benefits

	LSF Domains	Benefit
B1	**Safety**	The safety of maritime users is enhanced in the event of a significant maritime incident in New Zealand. This benefit would be exacerbated in areas of high patronage, for example the Cook Strait or Cruise Ship destinations. For example, in the Cook Strait the Interislander ferries can carry more than 800 people, with over 1.2 million passengers making the trip per year. This is expected to increase to 1.7 million in the next twenty years. Cruise ships also bring in large numbers of passengers - the largest cruise ships in New Zealand can carry more than 4,000 passengers.
B2	**Environmental amenity**	The environment is protected by rapid response to prevent accidents (such as vessels running aground) which will minimise the damage resulting from incidents. Large-scale marine oil spills such as the *Rena* disaster are less likely to occur, along with other impacts on the environment from hazardous substances or the vessel itself.

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	LSF Domains	Benefit
B3	**Financial and physical capital**	Increased economic resilience across New Zealand. A major maritime disaster in the Cook Strait could significantly disrupt the economic trade between the North and South Islands, as well as international imports and exports from the area's ports. This could be from blocking other vessels, impacts on port operations, and/or the removal of a vessel that was carrying people and cargo between the islands. Inter-island trade amounts to approximately $15B-$20B per year.
B4	**Financial and physical capital**	Direct costs to ships for repair and maintenance as a result of incidents in the Cook Strait is reduced. As the severity of an incident increases, so too does the cost to the vessel owner for repair. By reducing the likelihood of an incident escalating in severity, direct costs from an incident will decrease.

For a complete list of potential benefits see Appendix 9.

We have also organised benefits by the different groups that would benefit from this investment. Key benefactors are:

- **Government**

  Direct Economic Benefits – there is direct economic benefit in avoiding cost to the government by having to salvage a significant maritime incident. The direct cost to the Government of the MV Rena cleanup was $46m ($62m in 2024).

  Indirect Economic Benefits – there are benefits in reducing or avoiding the negative impact on economic activity from an incident. This was modestly estimated as $100m ($115m in 2024) for the MV Rena, but would be considerably higher if it occurred in an area of significant economic activity like the Cook Strait or closer to Tauranga.

  Environmental Benefits – The environment is protected by rapid response to prevent accidents, such as vessels running ashore or vessels discharging hazardous substances.

- **Maritime operators**

  Direct Economic Benefits – direct economic benefit by reducing and preventing the cost to operators of an incident.

- **Maritime users**

  Safety – an incident will be less likely to result in a loss of life scenario if vessels can be stabilised. The New Zealand Transport Agency estimates the Value of a Statistical Life at $12.5m. 1.2 million people travel on the Cook Strait ferries every year, and the largest cruise ships that visits New Zealand waters can carry up to 4000 passengers.

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The indicative business case outlined two minor benefits of the investment, for the:

- Ports through having more availability of their tugboats, who are currently required to provide first strike capability in the Cook Strait; and
- Oil and Gas industry through a potentially larger market for the supply of anchor handling tugboats in New Zealand.

Following a workshop held on the 18 December 2024, these minor benefits were discounted from the investment proposal as they were agreed not to be the key strategic driver of the investment, and the benefit size was not expected to be material to options evaluation in the Cost Benefit analysis.

The actual impacts achieved will vary depending on the preferred way forward selected in the Economic Case.

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Economic Case

The purpose of the economic case is to identify the investment option that achieves the Crown's objectives and optimises value for New Zealand. Having determined the strategic context for the investment proposal and established a robust case for change, this part of the Business Case:

- Reconfirms the options from the IBC;
- Reassesses the shortlist options; and
- Confirms the preferred way forward at this stage.

Changes to the Economic Case since the IBC

Following the approval of the IBC by Cabinet, the following detailed analysis has occurred and informed the Economic Case:

- Detailed independent technical analysis;
- Requirements gathering based on the technical analysis;
- Refined cost analysis;
- An RFI to test the preferred way forward with potential operators, users, and stakeholders; and
- Actuarial modelling to of the shortlist options to understand their specific impact on risk in the Cook Strait and nationally.

Maritime NZ has reassessed the short-list options as set out in the Indicative Business Case and confirms that the preferred way forward is still a local first strike and national Second-strike capability, as it is still:

- Likely to deliver the investment objectives and critical success factors;
- Likely to deliver sufficient benefits and deliver public value (not just value-for-money); and
- Considered to be realistic and achievable.

Short list of options:

The short list of options, included in the IBC, were reconfirmed by the Project Sponsor in December 2024. There is no change from the IBC in the scope of each option, reflecting the unchanged operating environment. The short-list options remain (

Figure 7):

- *Option 1: Status quo* ('Do nothing' – retained as a baseline comparator)
- *Option 2: Local First-strike capability* (do minimum option)
- *Option 3: Local First-strike and national Second-strike capabilities* (the preferred way forward)

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Figure 7: Overview of shortlist options

Table 9 provides a more detailed overview of each of the Shortlist options. These option descriptions are largely unchanged from the IBC.

Table 9: Overview of the shortlisted options

Option	Rationale
Option 1: Status quo ('Do nothing' – retained as a baseline comparator)	This option would see: • A continuation of the current patchwork of capability nationally; • Continued reliance on existing harbour tugboats; • Likely reduction in vessels of opportunity in New Zealand's waters; • The private provision of any towage capability only (i.e., no Crown role in the provision or facilitation of services); • The private financing of any capability; and • Response costs are recovered through existing measures.
Option 2: Local First-strike capability (do minimum option)	This option would see: • Any investment focused on the availability of EORC in the Cook Strait only; • A locally based capability (e.g. Wellington, Picton, or Nelson) to stabilise and hold stricken, but not tow, vessels in distress in a timely manner (assumed to utilise larger harbour tugs or similar commercial vessels with the ability to operate in the Cook Strait and hold large stricken vessels); • A partnership between the Crown, and private or commercial operators to ensure the capability is in place; • Some Crown investment with partial cost recovery from local operators/passenger and/or freight users as appropriate; and • No change to the availability of EORC outside the Cook Strait (i.e. a continued reliance on vessels of opportunity).

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Option	Rationale
Option 3: Local First-strike and national Second-strike capabilities	This option would see: • Any investment being focused on improving EORC in the Cook Strait, while also considering capability based outside of the Cook Strait region; • A locally based capability (e.g. Wellington, Picton, or Nelson) to stabilise and hold stricken vessels in distress in a timely manner (assumed to utilise larger harbour tugs or similar commercial vessels with greater ability to operate in the Cook Strait and hold large vessels in distress); • A separate capability which can arrive at an incident within an appropriate timeframe, with the capability to tow stricken vessels in distress (assumed to be a full EORC anchor handling class vessel based within 12 hours sailing of the Cook Strait); • The Second-strike additional redundancy can provide coverage for the First-strike when it is unavailable (e.g. in dry-dock). • A partnership between the Crown and private and commercial operators to ensure the capability is in place; and • Some Crown investment with partial cost recovery from local operators/passenger and/or freight users as appropriate.

Cost of the options

Maritime NZ has undertaken an assessment of the cost to the Crown of the shortlisted options (Table 10). Note that this is a financial rather than economic analysis of the option costs. It includes only the costs to the Crown, not the private sector or general public. It also has not sought to monetise benefits or risk as this has been done in the following section using a risk valuation approach.

The costs have been estimated using a combination of:

- Estimates from ABL's technical report;
- Information received through the RFI; and
- Best practice estimates from ports and external advisors.

Table 10: Estimated cost to the Crown of the shortlisted options over 10 years

Cost profile (10 Year)			
NZ $'000	Option 1	Option 2	Option 3
Maximum Operating Expenditure requirement (10-year)	-	s 9(2)(j)	[redacted]

As the Crown would purchase EORC 'services' (rather than assets) under any of the options, all options represent only Operating Expenditure to the Crown. There are no capital implications for any of the options.

The key cost driver across all the options is the cost of operating the vessel (crew, fuel, maintenance). As a general rule, the larger the vessel, the more fuel cost and crew cost is required to run.

Since the IBC, which included high-level indicative costings, each option's cost base has been refined. For each of the options estimates have increased, due to:

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- Technical advice and detailed market engagement indicating that the annual cost for operating a First-strike vessel was slightly higher than the estimates derived from market sounding in 2023 (used as a basis for costing in the IBC); and
- A 30% contingency applied across all options given uncertainty over the exact capability that the market will propose, the level of commercial revenue operators are able to achieve (to defray Crown costs), and fluctuations in variable costs (e.g. fuel) over the life of the contract. All effort will be made to reduce the need for this contingency and to defray cost to Government by seeking to engage operators who can maximise commercial use of the vessel – as is discussed in the Commercial Case.

Option 1 has no cost to the Crown because, as the Status Quo, the market will continue to provide EORC (likely to be sourced from Australia as vessels of opportunity decrease).

Option 2 is estimated to cost s 9(2)(j) over 10 years. This is driven by the operating cost for one First-strike vessel. This figure is net of any commercial revenue that would be used to offset the cost to the Crown (commercial revenue offsets are discussed in more detail in the Commercial Case).

Option 3 is estimated to cost s 9(2)(j) over 10 years. This includes the cost of a First-strike capability (as in Option 2) with the addition of a national Second-strike capability. As the Second-strike vessel is larger and more capable, this increases the cost materially. Both of these capabilities assume some level of commercial revenue to offset costs to the Crown.

Based purely on cost, Option 3 appears to offer the best value to the Crown, offering a dedicated Cook Strait capability, a highly capable national capability and redundancy across two vessels for less than the cost of a single, highly capable vessel in the Cook Strait.

Approach to Economic Assessment

The primary purpose of emergency response capability is to mitigate low probability, but high impact and potentially catastrophic events. The impacts from a stricken vessel are highly varied and dependent on many multiplier factors (e.g. sea state conditions, location, type of cargo, passenger/non-passenger, size of oil spill). For these reasons, Maritime NZ have focused the value for money analysis on valuing risk and comparing the different options efficacy in reducing the risk.

Valuation of risk

To quantify the level of risk posed, Maritime NZ commissioned actuaries with experience in maritime risk to examine vessel incidents and economic cost in both New Zealand and the Cook Strait.

Key inputs

Risk analysis covers a range of inputs, based on domestic and international data. Key inputs include:

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- Number of incidents by cause (such as loss of power or collisions) in the Cook Strait and Rest of NZ;
- Wind strength and Bollard Pull (towing strength) related to the vessel impacted;
- Whether the response vessel is deployed from Taranaki, Wellington, or Australia (in the event there is no domestic EORC available);
- Travel time for the response vessel to the impacted vessel;
- Potential for impacted vessel to sink;
- Potential for sinking vessel to result in fatalities;
- Economic costs associated with:
  - Impacted vessel delay (costs to operate vessel, cargo delay, passenger delay);
  - Cargo loss in sinking vessels; and
  - Fatalities from sinking vessels.

Actuarial analysis excludes environmental impact; and commercial and recreational fisheries disruption due to limited data, though both are potential economic costs of severe incidents, such as large oil spills. While not affecting overall risk-adjusted economic rankings, these impacts influence extreme event costs. For instance, the Rena incident was estimated to result in $2.2m of fisheries disruption and $47m in cleanup costs for the Crown, with a total salvage cost of $700m covered by private insurance. Indirect environmental costs, like permanent loss of flora or fauna, were not evaluated in the actuarial analysis but could be significant in similar large oil spills in New Zealand waters.

Scenario simulations

Inputs were combined to simulate 2,000 scenarios and test how well each EORC option would perform. These scenarios combine weather conditions over the past 30 years, historic location of the incidents (Cook Strait or elsewhere in New Zealand waters) and the severity of the incident themselves itself (from minor incidents such as loss of power, to extreme incidents that result in total loss of the stricken vessel).

Catastrophic events such as the sinking of a vessel or incidents that result in the loss of life, are extremely rare in New Zealand. These events were included in the simulation based on international data. On average, 89 cargo vessels sink a year of roughly 60,000 cargo vessels trading across the globe[6]. Globally, there have been 109 events over the past 24 years that resulted in fatalities.

Key findings from scenario testing

The analysis found that:

1 **Location of incidents:** Despite its economic and social significance, the Cook Strait accounts for about 15% of total time vessels spend in New Zealand waters. This finding suggests that options that can respond to incidents across New Zealand waters will provide better value than options that can only operate in the Cook Strait.

2 **Average costs of incidents:** The bulk of economic costs for an average incident are driven by the cost of delay for the goods on board the vessel and delays to the

[6] This is the estimated total number of cargo vessels operating globally (not the number of trips undertaken).

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passengers onboard. This suggest that options that respond more rapidly to the incident will reduce the average cost of the incident.

3 **Extreme events:** Historical data shows that extreme events can occur in calm weather due to human error or mechanical failure (e.g. the 1986 sinking of the Mikhail Lermontov in the Marlborough Sounds, Costa Concordia in the Mediterranean,2012, and potentially the 2024 Aratere grounding if the incident had unfolded elsewhere in the Sounds). Extreme events have a disproportionate impact on the average cost of incidents over the 10-year forecast, as they would result in the full loss of the vessel and goods, impact the environment and the fisheries in the area, and potentially lead to the regrettable loss of human life.

4 **Impact of new ferries in 2029 on the Cook Strait risk profile:** The actuarial model includes the potential introduction of new Interislander ferries in 2029, which are expected to feature Safe-Return-to-Harbour capabilities and other enhanced safety measures. Should this be the case, it would lower future risks of adverse events and reduce reliance on EORC capability in the Cook Strait.

Risk adjusted economic returns of EORC options

In the final step of the analysis, the costs of each EORC option were assessed against the total economic value of incidents they could feasibly help to reduce or avoid, relative to the current state - Net Financial Impact (NFI). The options were analysed based on their anticipated NFI just for the Cook Strait and for New Zealand as a whole.

Cook Strait impact

When looking at the Cook Strait alone, none of the EORC options would, on average, justify their procurement and operating costs through risk reductions when compared to the status quo (table below), unless a severe (top 1%) event occurs. A First Strike capability in Wellington or Picton (Option 2) is the best performing option, but only delivers NFI returns that are broadly comparable to the current state (-$8m over 10 years).

Summary of Mean Costs Relative to Status Quo (Option 1), Cook Strait Only, $m NZ

All Values Are Net Present Value Costs Over the Period Between 2026 and 2035

Component ($NZ)	Option 1	Option 2	Option 3
Procurement Cost	*Status Quo (no cost, no reduction of impact)*	s 9(2)(j)	
Additional Operational Expenditure			
Reduced Disruption Delays			
Reduced Cargo Loss			
Reduced Fatalities			
Net Financial Impact			

Modelling suggests that, on average, some benefit would accrue from EORC due to a reduction in delays to passengers and cargo. However, an average severity incident in the Cook Strait is unlikely to result in a loss of the stricken vessel or lead to a significant loss of life, which means the risk reduction from the EORC capability would not offset the procurement and ongoing operating costs.

Analysis of extreme events (top 1% severity) shows that Options 2 and 3 provide significant benefits, with Option 2 demonstrating the best NFI (figure below). Extreme events represent the worst-case scenarios, leading to the loss of the vessel, its cargo and significant and regrettable loss of life.

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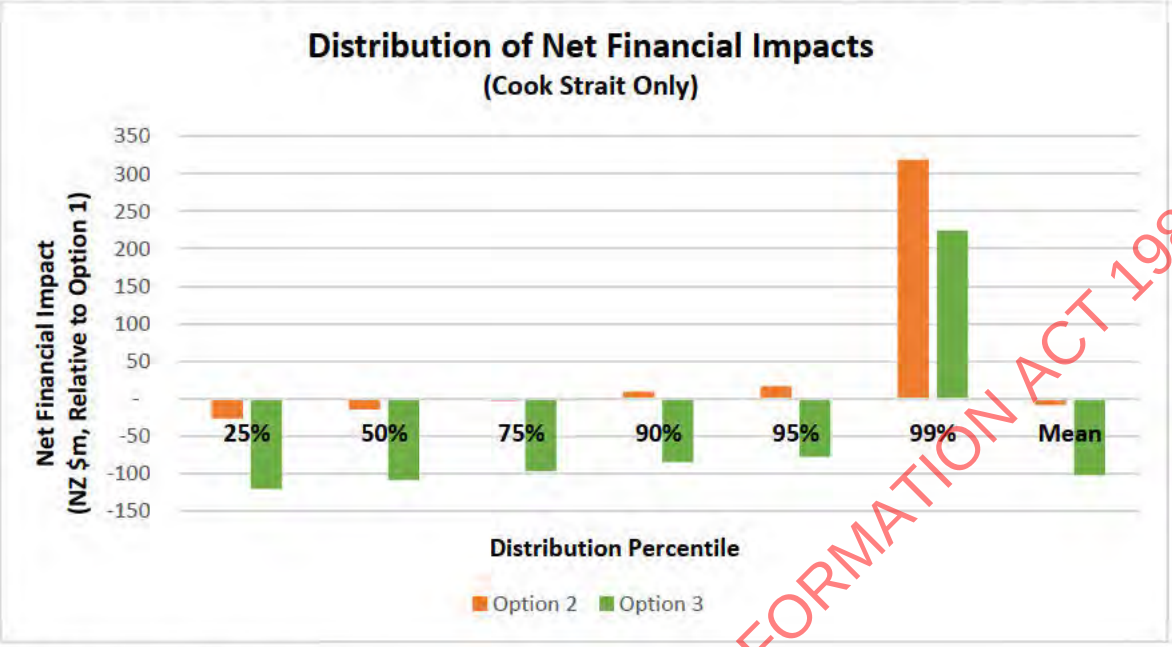
The analysis of such extreme events shows that EORC capability in the Cook Strait can greatly reduce fatality risk. Both EORC options generate an NFI over $200m over 10 years. Option 2 outperforms other options due to its cost-effective response to extreme events.



New Zealand-wide impact

Analysis of scenarios across New Zealand waters presents a clear economic case for a Strike Two capability that can respond to incidents outside of the Cook Strait. Option 3 generates a significant and positive NFI under most scenarios. A local Second-strike capability can respond faster (usually within a day) than the 5 days of good weather it would take for a vessel of opportunity to reach a stricken vessel in New Zealand from overseas.

Option 3 offers a unique capability to respond to incidents across New Zealand that no other Cook Strait based EORC option can offer. Over 80% of total time ships spend in New Zealand is outside the Cook Strait. While adverse weather is a factor in some incidents, vessels can run into trouble anywhere in New Zealand waters due to a wide variety of challenges, from mechanical failure to human error.

On average, Option 3 would deliver over $1.9bn of NFI over the 10 years due to its ability to quickly respond and materially reduce freight disruptions across New Zealand waters. A fast response would also significantly lower the risk to human lives in such events.

Summary of Mean Costs Relative to Status Quo (Option 1), Whole of NZ, $m NZ
All Values Are Net Present Value Costs Over the Period Between 2026 and 2035

Component ($NZ)	Option 1	Option 2	Option 3
Procurement Cost	*Status Quo (no cost, no reduction of impact)*	s 9(2)(j)	[redacted]
Additional Operational Expenditure			
Reduced Disruption Delays			
Reduced Cargo Loss			
Reduced Fatalities			
Net Financial Impact			

Further analysis of scenarios shows that Option 3 would generate a positive return even in the case of low impact events (25% percentile events) such as engine failures or other

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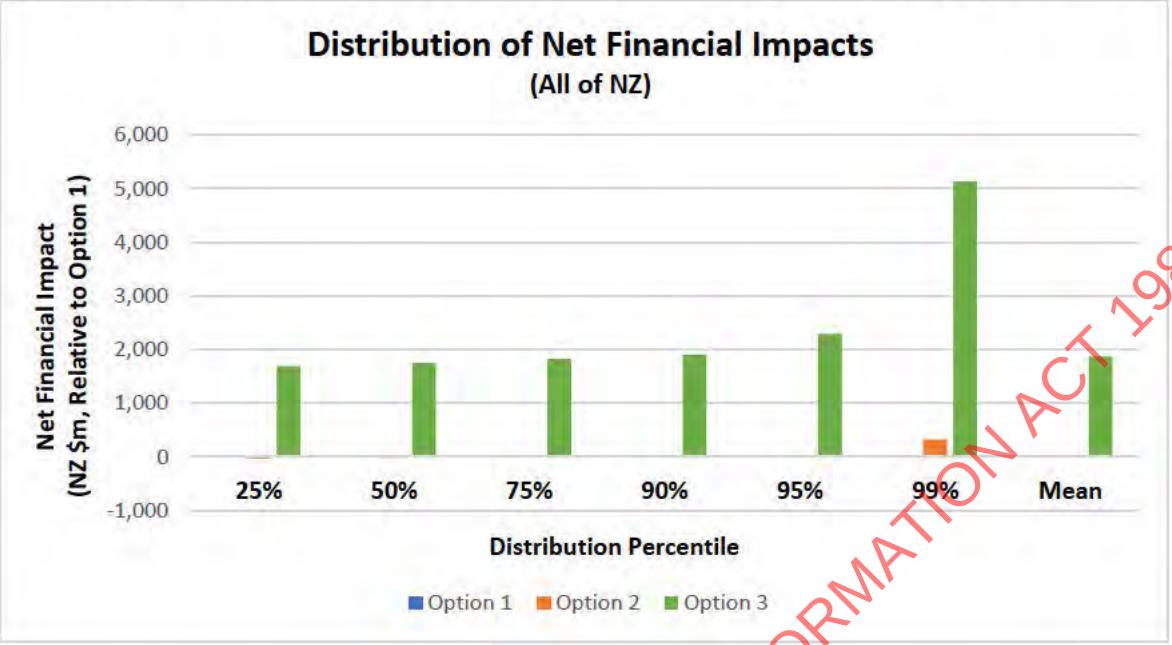
mechanical issues (Figure below). These results reinforce the need to provide EORC capability that delivers a national benefit, rather than limiting the capability to the Cook Strait.



Comparative assessment of costs, benefits, and risks

To complement the valuation of risk and cost comparison above, Maritime NZ has also undertaken a comparative assessment of the costs, benefits, and risks of the shortlisted options.

This assessment compares the extent to which each option:

- Meets the agreed Investment Objectives (set out in the Strategic Case) and Critical Success Factors (CSF) (unchanged from the IBC and included in Appendix 2 for reference);
- Supports achievement of the key project benefits; and
- Manages anticipated implementation risks (i.e. risks that could occur through delivery of the option).

The assessment also summarises the cost and risk valuation outcome discussed earlier in the Economic Case.

In reviewing the Indicative Business Case, the Project Sponsor confirmed that the Investment Objectives, Critical Success Factors, and the Implementation Risks have not materially changed from the IBC.

The following table summarises the comparative assessment. Note that the benefits and risks are comparative – e.g. a 'medium' benefit rating may still provide significant benefit, albeit less than a 'high' rated option.

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Table 11: Comparative assessment of the short-list options.

	Option 1: Status quo	Option 2: Do Minimum	Option 3: Optimal
Overall Rating	3	2	1
Costs			
Appraisal Period (years)	10 Year (2026-36)		
Max Opex Required ($m)	-	[redacted]	[redacted]
Risk valuation ranking (Cook Strait only) ($m)	[redacted]	[redacted]	[redacted]
Risk valuation ranking (New Zealand) ($m)	[redacted]	[redacted]	[redacted]
IO / CSF alignment (unchanged from IBC)			
Investment objectives	Low	Med	High
Critical Success Factors	Low	Med	High
Benefits (qualitative):			
B1: The safety of maritime users is enhanced in the event of a significant maritime incident in the Cook Strait.	**Low** No improvement in Cook Strait EORC availability.	**Medium** Improved ability to stabilise and hold stricken vessels in the Cook Strait and reduce risk to users.	**High** Material improvement in the permanent availability of ability to stabilise and tow stricken vessels to safety.

All withheld under s9(2)(j)

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	Option 1: Status quo	Option 2: Do Minimum	Option 3: Optimal
B2: The environment is protected by rapid response to prevent accidents (such as vessels running ashore) or minimise the damage resulting from incidents.	**Low** No improvement in Cook Strait EORC availability. Risk of excess environmental damage in an emergency remains high.	**Medium** Improved ability to rapidly reach, stabilise and hold stricken vessels in the Cook Strait and reduce the risk of excess environmental damage in an emergency. No guarantee of ability to tow vessels to safety.	**High** Material improvement in the permanent availability of ability to stabilise and tow stricken vessels to safety and reduce the risk of excess environmental damage in an emergency.
B3: Increased (economic) resilience in the Cook Strait and around New Zealand	**Low** No improvement in Cook Strait EORC availability.	**Medium** Increased economic resilience in the Cook Strait, but highest resilience risk is around NZ and this won't benefit outside the Cook Strait.	**High** Significantly reduced likelihood of prolonged disruption to travel in the Cook Strait and around New Zealand, as well as associated economic damage.

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	Option 1: Status quo	Option 2: Do Minimum	Option 3: Optimal
B4: Direct costs to ships for repair and maintenance as a result of incidents in the Cook Strait is reduced.	**Low** No improvement in Cook Strait EORC availability.	**High** For incidents in the Cook Strait, the biggest benefit in severe events is being able to stabilise the vessel – first strike gives this capability.	**High** Material improvement in the permanent availability of ability to stabilise and tow stricken vessels to safety and reduce the risk of excess direct costs for repair and maintenance from damage escalation in an emergency.
Implementation Risks (unchanged from IBC)	**Highest risk**	**Moderate risk**	**Lowest risk**
Overall Rating	**3**	**2**	**1**

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Summary of the comparative risk and benefit assessment

Based on the economic analysis, the preferred way forward for the provision of EORC is unchanged from the IBC - Option 3: Local First-strike and national Second-strike capabilities.

This option would see the Crown partnering with the private sector to ensure the delivery of two separate capabilities:

- A First-strike capability based in the immediate Cook Strait area to hold vessels in distress; and
- A Second-strike capability based within a reasonable distance to the Cook Strait (e.g. Taranaki, Nelson, or Napier) to tow Cook Strait vessels in distress if required after holding.

Option 3 provides the best balance of cost, benefits, and risks. The two-strike solution offers both a Cook Strait and national capability for less than the cost of a dedicated Single-strike capability in the Cook Strait. When viewed at a national level, Option 3 provides the best

value to New Zealand, providing a wider range of benefits, reducing a wider range of risks and providing redundancy across two EORC vessels.

Option 2 is still a viable option if only the risk to the Cook Strait is considered. However, this option means New Zealand would most likely be reliant on Second-strike EORC vessels of opportunity from Australia and would not have a response capability outside the Cook Strait at all.

Options 1 is not considered feasible as it does not address the core investment objectives, and the outstanding value of the risk without a vessel of opportunity in New Zealand remains high.

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Commercial Case

The Commercial Case describes the planned procurement route for the preferred option. Specifically, the Commercial Case:

- Describes the key service requirements;
- Summarises the market engagement and feedback to date;
- Sets out the key procurement plan elements; and
- Considers key contractual arrangements to be proposed to the market.

Service requirements

The Economic Case confirmed that *Option 3: Local First-strike and regional Second-strike capabilities* continues to be the preferred option for the provision of EORC. Maritime NZ's preferred option at this stage is for:

- A Cook Strait based capability (e.g. Wellington or Picton) to stabilise and hold stricken vessels in distress in a timely manner (First-strike);
- A separate, national capability which can support the First-strike capability and arrive at an incident within an appropriate timeframe (exact response requirements to be determined, but anticipated to be within ~10-20 hours of the Cook Strait), with the capability to tow a stricken vessel in distress (Second-strike);
- A partnership between the Crown and private/commercial operators to ensure the capability is available when required;
- EORC vessels to be used for commercial or other activities when not required for emergency response to defray Crown operating costs;
- Crown funding to be limited to a 'retainer style' arrangement and/or to cover the capability uplift required to provide EORC, (response costs to specific accidents or incidents would continue to be recovered through existing measures e.g. insurance);
- A ten-year operating agreement (noting that this may be broken into smaller contract lengths and 'renewed' as required); and
- The providers of EORC services to be responsible for operational decisions and engaging with vessels in distress (i.e. vessel owners will be expected to liaise with the EORC providers on cost recovery, towage to a port of refuge etc, rather than via Maritime NZ).

The two-strike solution was selected as it: ensures the capability to stabilise a vessel in distress is based as close to the Cook Strait as possible, potentially preventing incidents from escalating and removes the need to rely on vessels of opportunity to provide towage (in most situations) which may not be available. The Second-strike capability can provide a national benefit as it can be redirected to other regions in New Zealand to support incident response if required.

The preferred option also takes into account the ability of the EORC to undertake commercial activities in the Cook Strait, as well as to have knowledge of operating in the Cook Strait. Maritime NZ is confident the two-strike solution maximises the ability of suppliers to use the ETVs for commercial activities when not responding to incidents. This

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reduces potential costs to the Crown/maritime users as alternative commercial activities can offset costs.

Technical EORC attributes

Based on technical advice provided by ABL, the following indicative technical attributes have been identified for the First-strike and Second-strike capabilities (Table 12)[7]. These attributes are described in more detail in ABL's full *EORC Technical Review* (attached separately). The technical attributes have been used to inform the procurement approach (outlined later in the Commercial Case).

Table 12: Preferred technical attributes sought for First-strike and Second-strike EORC

Attribute	First-strike: Local deployment	Second-strike: Regional deployment
Bollard pull	Minimum 85T to handle stabilisation and holding under harsh weather conditions.	Minimum 100T to hold or tow larger vessels and manage offshore incidents. However, to future proof for larger tonnage that calls New Zealand in the future, our preference is for at least a 120T Bollard Pull vessel (in line with the Australia Maritime Safety Authority "AMSA" capability).
Specifications	Preferred specifications: • Length: ~40 metres for enhanced stability in rough seas. • Highly manoeuvrable to operate within confined channels and harbour limits. • Dual winches with Dyneema and steel wire ropes for diverse towing needs. • Firefighting capacity of 1200 m³/hr (0.5 FiFi unit). • Accommodation for a crew capable of 24-hour operations. • Fuel capacity sufficient for at least three days of continuous operation without refuelling.	Preferred specifications: • Length: greater than 60 metres. • Deck Space: Over 300 m² to accommodate equipment such as oil spill response kits (2x20' containers). • Double-drum winch system for increased operational redundancy. • Firefighting capacity of 2400 m³/hr (1 FiFi standard). • Accommodation for 15 spare bunks (in addition to the required crew members) for extended use (example, accommodation for salvage team, medical responders etc). • Fuel endurance to support a 30-day towing operation without refuelling.
Role	This vessel acts as support tug to stabilise the situation by passing on the tow line, making the connection, and ensuring that distressed vessel is away from all navigable dangers.	This vessel provides extended towing, salvage, and environmental response capabilities, supporting larger vessel emergencies within and outside the Cook Strait.

[7] Note these attributes are indicative only. Suppliers will be asked to propose specific ETVs that meet or exceed the attributes above. Where a lesser capability is proposed, suppliers will be required to provide a detailed assessment of their ETV's capabilities across a range of environmental conditions. This assessment will include technical specifications, performance data, and design weather workability. All capabilities proposed by suppliers during the procurement will be independently assessed by Maritime NZ's technical advisors.

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Attribute	First-strike: Local deployment	Second-strike: Regional deployment
Standby locations	Based within 10-30 nautical miles of the Cook Strait to provide rapid response to incidents. An ideal response time of one to two hours (maximum four)	Based in a major New Zealand port to ensure readiness for regional emergencies and offshore operations. As this capability would form part of a two-strike solution, it needs to remain within a 'reasonable distance' of the Cook Strait at all times (i.e. it will need to remain within New Zealand's EEZ and limit the time spent supporting other emergency responses). The ideal maximum transit time to the Cook Strait is 12 hours.

Market analysis

Approach to market engagement

Maritime NZ undertook an initial EORC market assessment in late-2023. A range of commercial entities in the New Zealand maritime industry (including ports and operators) were engaged to determine the viability of a contracted model for delivery of EORC services. This market engagement focused primarily on the Cook Strait and Taranaki regions and specifically tested the viability of the preferred First/Second-strike model. An IBC was completed in October 2024 based on this market assessment.

Following approval of the IBC in November 2024, Maritime NZ, supported by KPMG and international maritime consultants ABL, completed a Request for Information (RFI) from December 2024 to January 2025. The RFI included detailed information on the preferred option and technical specifications () and sought respondents' feedback on the preferred solution, including the proposed commercial arrangements, procurement approach, and potential cost ranges. The RFI, including the questions asked of respondents, is attached separately for reference.

The RFI was provided to 25 New Zealand based operators and/or key stakeholders and 18 international operators from across the Asia-Pacific region. Of these, 19 organisations (both domestic and international) attended a 'Town Hall' briefing on the proposed solution and the information sought from the market. Eleven formal RFI responses were received. Key insights from the RFI are set out overleaf. Lists of those organisations that received the RFI and submitted responses are included in Appendix 3.

Summary of RFI feedback

The RFI process confirmed a strong interest from the market in providing both the First-strike and Second-strike EORC solutions. Respondents confirmed that the two-strike approach is viable and sensible, and proposed some alternatives. Key findings from the RFI responses are included below.

Proposal for smaller First-strike vessels

The RFI specified a Cook Strait based First Strike ETV of ~40m in length. This was the minimum size recommended by ABL to meet the expected sea conditions in the Cook Strait.

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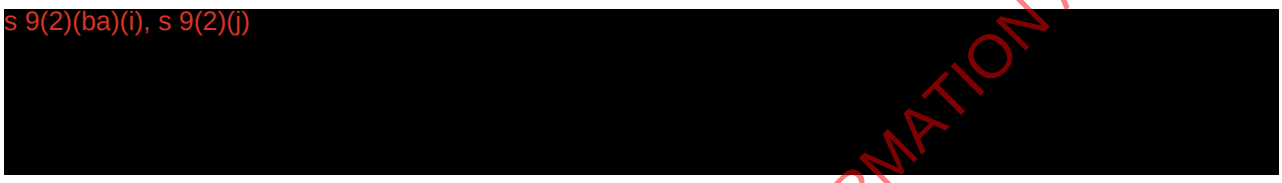
s 9(2)(ba)(i), s 9(2)(j)

While the smaller vessels proposed by ports would be able to meet the minimum bollard pull requirement (80T), they are expected to be too small to operate in severe weather (i.e. are likely to face challenges in greater than 1.5m swells and are unlikely to be able to provide meaningful support as wave heights approach 3m).

s 9(2)(ba)(i), s 9(2)(j)



Initial cost estimates indicate that there is not a significant cost difference between the smaller and larger First-strike capabilities based on the information provided in the RFI (once revenue offset opportunities and excluded costs [i.e. fuel] are taken into account), despite the preferred ~40m vessel providing significantly more benefits. However, this would need to be further tested as part of any procurement.

Considerations for Second-strike capabilities

Feedback from RFI respondents confirmed Maritime NZ and ABL's initial assessment that only the Taranaki region has the commercial opportunities to make a Second-strike vessel viable. However, there is significant uncertainty in demand for these types of vessels going forward, primarily driven by the slowdown in the oil and gas sector. Maritime NZ may need to encourage participants to collaborate with other potential users in Taranaki to ensure all commercial activities are considered and costs to the Crown are minimised.

Based on feedback from the November 2023 market sounding, Maritime NZ proposed a 10-year contractual period for both the First-strike and Second-strike services. However, uncertain demand in the oil and gas sector means that Taranaki based operators have stated that they are unlikely to enter a contract longer than 5-7 years. Maritime NZ will likely need to factor in the costs and risk of renewing/retendering for Second-strike services sooner than expected and any potential risks to service continuity that may arise.

Commercial opportunities for EORC vessels

The availability of commercial activities for the ETV outside of incident response is the main driver of both the feasibility of the two-strike solution and the potential costs to the Crown. Keeping vessels and crew active is critical to ensuring vessels remain operational, are ready to respond, that people have the relevant certification, and training remains current.

s 9(2)(ba)(i), s 9(2)(j)

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Respondents noted that there are limited commercial opportunities for larger vessels in the Cook Strait region s 9(2)(ba)(i), s 9(2)(j) [redacted]

Revenue sharing / user pays options

Maritime NZ did not specifically request information on funding options for the First-strike or Second-strike capabilities – only feedback on the potential commercial activities vessels could undertake and the residual Crown contribution required.

Several respondents provided initial ideas on approaches to sharing revenue from incident responses (i.e. the fee charged to stricken vessel owners/insurers by the ETV operators for extended towage support). This could go some way to offsetting the costs to the Crown. However, we note that potential revenue from extended ETV operations is unpredictable and is one of the main incentives for operators to undertake this work. The Crown would need to ensure that the opportunity remains attractive to operators and that it effectively manages any perceived conflicts in financially benefitting from emergency responses.

s 9(2)(f)(iv) [redacted]

Procurement plan

The proposed approach to market complies with Government Principles of Procurement, the Government Procurement Rules, and Maritime NZ's procurement policies. Maritime NZ has engaged with the Ministry of Business, Innovation and Employment's Government Procurement team on this investment and will continue to do so as the procurement progresses.

This section outlines the key elements of the Procurement Plan. These may be amended based on the outcome of Ministerial and Budget 2025 decisions.

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Procurement approaches considered

The IBC proposed parallel two-step procurements for the First-Strike and Second-strike, with an open RFI followed by a closed RFP for each capability. However, an RFI has already been completed as part of this DBC. Rather than recommend that Maritime NZ progress directly to RFP following funding approval, this DBC considers a wider range of potential procurement options.

The primary driver of the different procurement options is the extent to which Maritime NZ wants to remain open to different levels of capability being proposed by respondents (i.e. whether Maritime NZ would enforce a minimum capability First-strike requirement and potentially exclude some suppliers unable to attain minimum requirements).

Multiple respondents also indicated that they would be interested in providing both the First-strike and Second-strike capabilities. This means that running two parallel, but separate, procurements could be burdensome for bidders and make assessing the best package of options challenging for Maritime NZ.

The options considered in more detail are set out in Table 13 for reference:

Table 13: Procurement approaches considered

Procurement approach	Description	Comment
1. Two stage procurement (open EOI / closed RFP) – Preferred capability, but no minimum capability requirement	No restrictions on participating in the EOI/RFP based on the level of capability proposed. Maritime NZ would state its preferred capability and respondents would need to demonstrate the limits of their proposed capability (if less than requested). Maritime NZ would then decide the best package of First-strike and Second-strike options during the RFP.	Maintains competitive tension and ability to consider best package. However, risks 'wasting respondents' time' and money if Maritime NZ has a minimum level of capability it will accept.
2. Two stage procurement – minimum capability requirement	Specify a minimum level of capability at which EOI and RFP submissions will be accepted. Exclude those EOI and RFP submission that do not meet or exceed the minimum capability requirements.	More likely to ensure Maritime NZ only receives bids for services it wants. However, reduces competitive tension. Still enables the best package to be considered.
3. Single-stage RFP for First-strike, two-step procurement for Second-strike	Closed RFP with the most likely First-strike suppliers based on RFI feedback. Open EOI and closed RFP for Second-strike.	Accelerated option for securing First-strike. Still requires bidders to demonstrate the limits of the capability they propose. Some competitive tension maintained.

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Procurement approach	Description	Comment
4. Direct approach for First-strike, two-step procurement for Second-strike	Issue First-strike RFP only to the most likely First-strike supplier (i.e. direct approach procurement but still require an RFP response as the basis for negotiations). Open EOI and closed RFP for Second-strike.	Fastest option for procuring First-strike capability. However, no competitive tension and reduced options for innovation in procurement, including ability for the same supplier to provide First-strike and Second-strike services. Likely to face pushback from some stakeholders. This option is also unlikely to comply with Government rules of sourcing as the capability required is not 'unique'.

Recommended procurement process

Approach

The recommended approach to market is a single two-step, competitive tender for both First- and Second-strike capability. The two-step tender is intended to quickly assess the potential viable suppliers through a low-cost, open EOI, followed by a more in-depth closed RFP with a small group of selected participants. The EOI will set both a minimum required and a preferred capability for the First-strike and Second-strike (discussed below).

Minimum and preferred capability

Maritime NZ will establish a minimum level of capability it requires in the EOI for both the First-strike and Second-strike. EOI responses that do not meet this minimum requirement will not be considered 'eligible' and will be excluded from further assessment.

First-strike minimum capability

Maritime NZ anticipates setting the minimum First-strike capability requirement on a real world scenario. At this stage, the minimum First-strike capability is expected to be the ability to establish a connection and stabilise the Kaitaki in 45 knot winds and 3m swells (as occurred in the 2023 mayday incident).

EOI respondents would need to confirm that they have assessed their proposal as meeting this minimum requirement. Maritime NZ would then assess the proposed capability (including through independent technical advisors as required) and determine whether it considers the bid eligible for further consideration. Meeting the minimum requirement is not sufficient to progress to RFP stage on its own. All eligible EOI responses will be assessed against the evaluation criteria (Table 17) and Maritime NZ's preferred capability (below). Maritime NZ will then determine what bids (if any) are progressed to RFP.

First-strike preferred capability

In addition to the minimum capability requirement, Maritime NZ will also present its preferred capability to help guide bidders' responses at EOI/RFP. The preferred First-strike capability will be based on the preferred technical specifications set out in . Based on these specifications, the First-strike capability would be able to operate in 40 knot winds and 5m swells and stabilise all but the largest vessels operating in New Zealand.

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It is possible that bidders propose a solution that is less than Maritime NZ's preferred capability but above the minimum requirement. If Maritime NZ decides to progress a lower capability proposal to RFP (for example, a proposal for a 36m vessel able to operate in 4m swells instead of the preferred 40m vessel), then the bidder will be required to provide a detailed technical assessment of their proposed ETV's capabilities across a range of environmental conditions. This assessment would include technical specifications, performance data, and weather workability.

Allowing bids under the preferred capability (but above the minimum requirement) reflects the wide range of vessel types and capabilities that could be deployed. An independent assessment would be completed to provide an independent view on the capabilities of the proposed solution. This will increase procurement costs for both bidders and Maritime NZ. However, it will enable Maritime NZ to better consider and discount a wider range of EORC options.

Bidders proposing a vessel that meets or exceeds the preferred capability will not be required to provide the same level of technical assessment at RFP. However, their proposed capability will still be independently assessed to ensure that all bids are undergoing the same level of scrutiny during the evaluation.

Second-strike minimum and preferred capability
The RFI did not raise any issues with Maritime NZ's preferred capability for the Second-strike. However, Maritime NZ intends to take the same 'minimum' and 'preferred' approach to procuring the Second-strike solution.

The minimum Second-strike capability is anticipated to be based on the minimum capability outlined in Table **12** (i.e. a minimum 100T bollard pull and 60m long vessel). The preferred Second-strike capability will be set at a level to 'future-proof' the capability (i.e. a minimum 120T bollard pull and a vessel length in excess of 60m).

Proposals for First-strike and/or Second-strike
Some RFI respondents stated that they would consider bidding for both capabilities. To streamline the procurement process, reduce the time burden for bidders, and enable the best 'package' of EORC to be considered, Maritime NZ intends to run a single procurement for both the First-strike and Second-strike capabilities. Bidders will be subject to the same evaluation criteria and will be asked to respond only to the capability relevant to their response (i.e. First-strike, Second-strike, or both strikes).

Procurement process summary

Table 14 outlines the expected purpose and requirements of the procurement stages. Maritime NZ may amend the proposed process based on the outcome of Ministerial/Budget 2025 decisions and any further technical analysis completed.

s 9(2)(j)

[redacted]

Bidders will be encouraged to maximise the commercial activities undertaken. Maritime NZ will be clear at both EOI and RFP that it welcomes consortia bids (i.e. an arrangement

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between Maritime NZ and a consortium) where this results in a higher commercial utilisation, and hence lower cost to the Crown.

Table 14: Procurement process summary

Dimension	Stage 1: Expression of Interest (EOI)	Stage 2: Request for Proposals (RFP)
Purpose	To allow the procurement to be open and accessible to the market and then short-list respondents with the capability and capacity to deliver the required facilities.	To select a supplier who offers a suitable solution and best public value for contract negotiations.
Participants	Open tender via Government Electronic Tender Services (GETS) and direct contact with known interested parties / industry groups to ensure the opportunity is known to any potential respondents that do not access GETS.	Closed tender with the successful short-list of supplier(s) from the EOI.
Information provided	Maritime NZ will provide: • An overview of the project; • Maritime NZ's minimum and preferred capability for the First-strike and Second-strike; and • An outline of key commercial terms.	Maritime NZ will provide: • A draft 'Heads of Agreement' which includes indicative acceptance criteria (e.g. sea trials), ongoing availability and performance expectations and key commercial elements.
Response requirements	A high-level written response setting out alignment with preconditions, capability, track record, service delivery approach, degree of certainty of commercial revenues, and indicative (non-binding) cost to the Crown. Bidders will be required to assert that their proposed capability can meet the minimum capability required.	Detailed written response explaining the respondent's technical and commercial solution, pricing, proposed commercial activities, and any proposed derogations to the 'heads of agreement'. Where capability proposed is less than Maritime NZ's preferred capability, bidders will be required to provide detailed evidence of the proposed ETV's capability and operating limits.

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Dimension	Stage 1: Expression of Interest (EOI)	Stage 2: Request for Proposals (RFP)
High-level process	The high-level process steps are: • EOI documentation posted on the Government Electronic Tender Service ("GETS") (NZ Government procurement portal) with link emailed to those suppliers that do not regularly monitor GETS; • EOI responses prepared; • Eligibility of EOI responses confirmed; • Eligible responses assessed and shortlisted; and • Respondents notified.	The high-level process steps are: • Shortlisted respondents provided RFP documentation; • RFP briefing sessions held; • RFP responses received; • Independent technical assessment of all proposed capabilities; • Responses assessed and preferred supplier selected; • Respondents notified; and • Contract negotiations with the preferred supplier.
Successful parties	Short-listed parties will be invited to submit an RFP response for the First-strike and Second Strike capabilities (c.4-6 suppliers total across the two capabilities, noting that the same supplier could be invited to submit for both RFPs or Maritime NZ could decide to only progress one proposal to RFP for either capability).	We anticipate that one supplier will be selected for the First-strike capability, and a second supplier for the Second-strike capability (noting that the same supplier could be selected for both capabilities).
Time to respond	Duration: 4 weeks for response and 2 weeks for response review.	Duration: 8 weeks for response and 2 weeks for evaluation.

Preferred bidder negotiations

A preferred bidder for the First-strike/Second-strike will be selected at the conclusion of the RFP. Maritime NZ will then enter preferred bidder negotiations with the selected supplier(s). Throughout the negotiations, Maritime NZ will seek to preserve the proposed Heads of Agreement terms into a formal contract and minimise any derogations.

s 9(2)(j)

[redacted]

Probity management

All commercial activity will be in accordance with Maritime NZ's policies. This includes ensuring that procurement, contract, and supplier management practices are undertaken in accordance with good practice, and with the New Zealand Government's expectations of public sector sourcing, purchasing, contract and supplier management.

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The procurement team must demonstrate ethics and integrity in this procurement. This means:

- Acting fairly, impartially, and with integrity;
- Being accountable and transparent;
- Being trustworthy and acting lawfully;
- Managing conflicts of interest; and
- Protecting bidders' commercially sensitive and confidential information.

An advisor from an external agency (e.g. the Ministry of Transport or AuditNZ) will act as the probity officer for the procurement. The probity officer will be responsible for ensuring that the procurement is undertaken in line with the principles set out below.

Probity in this procurement will be managed by:

- Ensuring compliance with Maritime NZ's code of conduct;
- Ensuring that financial authority for the procurement is approved before proceeding to tender;
- Ensuring everyone involved in the process signs a confidentiality agreement and declares any actual, potential or perceived conflict of interest;
- Identifying and effectively managing all conflicts of interest;
- Treating all suppliers equally and fairly; and
- Providing each supplier with a comprehensive debrief at the end of the tender process.

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Appointment of external advisors

MNZ intends to use external advisors with complementary expertise, in technical, legal, commercial areas. These advisors will be procured in line with applicable policy. This may include direct appointment or competitive tender.

Treatment of unsolicited proposals

There has already been some interest from several commercial providers in providing EORC, due to the market engagement exercise and the public announcements about the development of the business case following Budget 24. It is therefore possible that unsolicited proposals will be received before the tender process commences. If this occurs (for either the First- or Second-strike procurement), the interested parties will be referred to the tender process.

Evaluation team and process

Evaluation team

Proposals from potential providers will be assessed by an Evaluation Panel consisting of staff with appropriate expertise from Maritime NZ and the Ministry of Transport. External advisors will also review tenders and provide analysis and advice for the evaluation panel. The evaluation panel (Table 15) will evaluate bids and recommend the preferred supplier(s).

Note that panel members may be adjusted prior to procurement in line with the delegated authorities framework (Table 20).

Table 15: Voting members

Role	Name/Title	Organisation
Project Sponsor	Deputy Chief Executive, Response, Security and Safety Services	Maritime NZ
Project Manager	Chief Advisor – Response, Security and Safety Services (RSSS)	Maritime NZ
Subject matter expert	Deputy Chief Executive - Technical Advice and Support	Maritime NZ
Subject matter expert (Commercial)	Senior Contracts Advisor, Maritime Response	Maritime NZ
Subject matter expert (Technical)	Manager Technical Operations, Maritime Response	Maritime NZ
Ministry of Transport representative	Resilience & Security Manager	Ministry of Transport

Table 16: Non-voting members

Role	Name/Title	Organisation	Role
Chair of evaluation panel	Deputy Chief Executive, Policy Group	Ministry of Transport	Impartially chair evaluation panel meeting(s).
Technical advisor	*To be confirmed*	*To be confirmed*	Advise on the appropriateness of the technical capabilities proposed by respondents.
Commercial/Financial advisor	*To be confirmed*	*To be confirmed*	Advise on any financial/commercial implications of the proposals (may be undertaken by a Maritime NZ Finance Business Partner).
Legal advisor	*To be confirmed*	*To be confirmed*	Advise on any legal considerations of the proposals, including proposed derogations on the contract.
Probity auditor	*To be confirmed*	*To be confirmed*	Provide 'live' probity assurance during panel meetings, advise on probity matters, and confirm the procurement was undertaken in line with the agreed probity principles.

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Evaluation method

A weighted attribute (weighted score) evaluation model will be used for both the EOI and RFP. Price will only be a weighted criterion at RFP. Evaluating price enables Maritime NZ to effectively trade-off different levels of capability and cost. A two-envelope process will be used and suppliers' pricing will only be opened once the criterion scoring is completed.

Evaluation Panel members will independently score each proposal. A moderation session will then be held to arrive at a moderated total score for Quality (and Price during RFP). Price will be scored at the conclusion of the moderation session once final Quality scores have been agreed.

Evaluation criteria and weightings

Qualifying EOI responses will be evaluated using the following evaluation criteria and weightings at EOI stage:

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Innovation
Suppliers may have new and innovative ways to deliver against the specifications. Maritime NZ will accept alternative proposals on this basis.

Assessment of bids against the evaluation criteria

The panel will use a consistent rating scale to evaluate suppliers' bids against the criteria.

Table 19: Evaluation ratings

Assessment	Definition	Rating
Excellent	Exceeds the requirement. Exceptional demonstration by the supplier of the relevant ability, understanding, experience, skills, resource and quality measures required to provide the goods/services. Response identifies factors that will offer potential added value, with supporting evidence.	9-10
Good	Satisfies the requirement with minor additional benefits. Above average demonstration by the supplier of the relevant ability, understanding, experience, skills, resource and quality measures required to provide the goods/services. Response identifies factors that will offer potential added value, with supporting evidence.	7-8
Acceptable	Satisfies the requirement. Demonstration by the supplier of the relevant ability, understanding, experience, skills, resource and quality measures required to provide the goods/services, with supporting evidence.	5-6
Minor reservations	Satisfies the requirement with minor reservations. Some minor reservations of the supplier's relevant ability, understanding, experience, skills, resource and quality measures required to provide the goods/services, with little/no supporting evidence.	3-4

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Assessment	Definition	Rating
Serious reservations	Satisfies the requirement with major reservations. Considerable reservations of the supplier's relevant ability, understanding, experience, skills, resource and quality measures required to provide the goods/services, with little/no supporting evidence.	1-2
Unacceptable	Does not satisfy the requirement. Does not comply, and/or insufficient information provided to demonstrate that the supplier has the ability, understanding, experience, skills, resource and quality measures required to provide the goods/services, with little/no supporting evidence.	0

Due diligence

In addition, the panel may:

- Request specific advice or analysis from its external advisors or internal technical experts to support analysis of the responses;
- Request additional information from respondents as required to understand their proposed capability; and/or
- Test specific elements of bids (on an anonymised, confidential basis) with external stakeholders as required.

Delegated authorities

Table 20 sets out the expected delegations for the business case and procurement process.

Table 20: Proposed Delegated Authorities

Approval Required	Description	Delegated Authority for Final Approval
Indicative business case	Approval of business case, commercial principles, delegations, and agreement to proceed with Budget 25 bid.	Cabinet
Detailed Business Case	Approval of business case, commercial approach, and financial envelope as part of Budget 25.	Cabinet
External Advisors	Appointment of external advisors for the procurement and negotiations.	Deputy Chief Executive Response, Security and Safety Services
EOI/RFP documentation	Approval of content of RFP documents.	Deputy Chief Executive Response, Security and Safety Services
Evaluation Panel appointment	Appointment or replacement of Evaluation Panel members.	Deputy Chief Executive Response, Security and Safety Services

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Selection of preferred supplier(s)	Selection of the preferred supplier(s) following RFP assessment (carried out by project team) and advice from the EORC Governance Group.	Chief Executive of Maritime New Zealand
Final agreement of contract terms	Agreement to all key contractual terms and conditions and signing the contract.	Chief Executive of Maritime New Zealand
Contract close	Ministerial approval will be required to draw down funding from the tagged contingency (if that is the funding mechanism used) and enter contracts.	Joint Ministers (Finance, Transport)
Minor variations	Any proposed settlement within the funding contingency agreed in Budget 25 and/or with only minor variance from the DBC analysis.	Chief Executive of Maritime New Zealand (under delegation of Maritime NZ Board)
Significant variations	Any proposed settlement in excess of the funding contingency agreed in Budget 25 or a significant variance from the DBC analysis.	Cabinet

Key date – procurement schedule

Proposed procurement timeline

Appointed suppliers may need 12-18 months to secure a new ETV vessel and may need time to source an interim vessel while their permanent ETV is secured. An accelerated procurement timeline is therefore required to ensure EORC can be in place within a reasonable timeframe.

We estimate that the sourcing of the supplier will take up to four months and contract negotiations will take approximately two months. This means the tender must be issued by June 2025 to meet the dates shown in Table 21.

Subject to approval of this Detailed Business Case, the procurement milestones will be as follows:

Table 21: Indicative procurement timeline

Activity/milestone[10]	Date
DBC approved	March 2025
Decision on funding	May 2025
EOI release	Mid-May 2025
EOI responses received	Mid-June 2025
EOI evaluation complete	Early-July 2025
Respondents notified of outcome	Early-July 2025
RFP release	Mid-July 2025
RFP responses received	Mid-September 2025
RFP evaluation complete	Late-September 2025
Respondents notified of outcome	Late-September 2025

[10] Maritime NZ may also hold supplier briefings during the EOI/RFP process.

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Preferred supplier(s) appointed	Late-September 2025
Contracts entered	March 2026

Release of procurement documentation
Potential service providers (particularly for the Second-strike capability) are unlikely to be on any existing All-of-Government panels or registered for GETS notifications. However, the opportunity is already well known in the market, and we expect that the majority of potential suppliers have already received the RFI. Maritime NZ will look to supplement release of the EOI on GETS with notification in appropriate trade publications, industry groups, and/or direct email contact as required.

The RFP will be a closed tender. Only those suppliers shortlisted following the EOI will receive the RFP documentation. After the conclusion of the RFP and signing of the contracts, Maritime NZ may consider proactive release of the RFP tender documentation.

Commercial structure

Maritime NZ intends to leave the commercial structure relatively open to enable respondents to provide a wide range of solutions through the RFP process. The intention is to procure a capability/service, rather than see the Crown take on an ownership stake in a vessel or be responsible for day-to-day operational decisions (i.e., negotiating port access or specifying where vessels must be located – outside of maintaining agreed levels of coverage). Maritime NZ intends to model this structure on an 'as a Service' approach.

Maritime NZ has developed a preferred set of key commercial features at this stage (Table 22).

Table 22: Key commercial features

Attribute	Comment
Overview	Maritime NZ invites proposals to provide First- and Second-strike capabilities consistent with the requirements set out in the Procurement Plan. Maritime NZ enters into a 10-year service agreement with the selected operator(s) to provide the services (noting the potential need to enter a shorter arrangement with the Second-strike operator). The operator(s) retains ownership of the vessel(s) throughout the agreement(s). The operator(s) is responsible for operating, crewing, maintaining, and ensuring availability of the vessels. Any required service enhancements (i.e., the installation of specialist EORC equipment) will be installed and maintained by the operator(s).
Role of Maritime NZ	Maritime NZ is responsible for: a) Procurement and contracting with the operator(s); b) Ongoing funding and payment under the contract; and c) Ongoing management of the contract, including ensuring service requirements are met.

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Attribute	Comment
Vessel ownership	The operator is responsible for providing the agreed capability. The Crown will not have an ownership stake in the capability/vessel. In the event the operator sells or leases a new vessel to deliver the services, the operator will be expected to provide a vessel of the same or greater capability.
Vessel berthing	Operators are expected to negotiate berthing space directly with ports. A portion of these berthing costs may be included in the Crown's payment depending on the exact commercial arrangement entered.
Vessel management and maintenance	The operator will manage the vessels and provide all ongoing maintenance.
Capability availability	The operator will be responsible for ensuring that the procured capability is available as agreed (i.e., for ensuring that services can continue to be provided while vessels are in dry dock for required maintenance etc). This includes being available for joint training exercises.
Crewing and training	The operator will be responsible for ensuring vessels are appropriately crewed and that the crew's training remains current.
Duration	Expected to be for 10 years (with renewal options), noting that Second-strike services may only be feasible to contract for a five-year initial term, with the option to extend by mutual agreement. The contract will set out the early termination rights and any associated penalties for both parties. Maritime NZ will not be liable for any costs associated with decommissioning the service at the expiry of the contract or on termination.
Service availability	The Crown's preference is for EORC to be available 24/7.
Quantum and phasing of costs	No upfront capital is required. Maritime NZ is responsible for an agreed Operating Expenditure amount for the duration of the agreement once the vessels are operational.
Inflation	Operating payments will be inflated in accordance with agreed index(es) (e.g. CPI, wage indexes etc).
Fuel	The mechanism for payment of fuel costs will be agreed with the supplier. Likely to be set with reference to market rates.

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Risk allocation

Table 23 sets out the risk allocation of the preferred way forward. The risk allocation generally reflects an approach to optimising risk allocation where risk is allocated to the party best able to control or manage the risk.

Given that the preferred way forward is for Maritime NZ to purchase a service (not an asset), all risks associated with the financing, performance, and ownership of the vessels remains with the supplier. However, Maritime NZ would retain the risk associated with any changes to requirements or Government policy.

Table 23: Risk allocation table

Risk	Operator	Maritime NZ
Financing risk	✓	
Availability and performance risk	✓	
Residual value risks	✓	
Commercial operation revenues	✓	
Changes to regulation		✓
Changes to contract requirements		✓
Changes to Government policy		✓

Contractual arrangements

Given the nature of the agreement, it is expected that a bespoke contract will be developed for EORC services. Where possible Maritime NZ will look to base the agreement(s) on its interim EORC solution contract (currently under negotiation) and leverage existing well-known industry contracts (e.g. BIMCO) to streamline the negotiation process.

Maritime NZ will also engage with the Australian Maritime Safety Authority (AMSA) to understand their contractual arrangements for EORC services and use this knowledge to inform the development of a contract(s) for the EORC service. AMSA may also be asked to review and provide advice on the capability/contractual arrangements (as has been done in development of the IBC and discussions around EORC in New Zealand more broadly).

Separate contracts are planned for the First- and Second-strike components. These would be broadly similar but differ on specific costs, technical requirements, and other related matters.

The market engagement exercises have indicated that the First-strike contract length can be 10 years or more. The provision of these services may require significant capital outlay and operators will want to ensure they can recover those costs to make the agreement commercially viable.

The Second-strike contract is expected to be for an initial five-year period. The likely suppliers of Second-strike services operate in the offshore oil and gas sector and there is not enough demand certainty to enter a contract for longer than five to seven years.

Both agreements will include provisions for the renewal/rollover or termination of the contract to ensure there is no loss of EORC. If contracts are unable to be renewed on satisfactory terms, Maritime NZ may be required to retender the services. The ability to retender services if required at the end of the initial period will be included in the Second-strike contract.

Acceptance of the service

Prior to service commencement, Maritime NZ will be required to provide acceptance of the service. This is likely to include satisfactory completion of sea trials, independent verification of the capabilities and/or other mechanisms to give Maritime NZ comfort that the service

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offered can meet the agreed requirements. Maritime NZ may complete the acceptance procedures itself or seek the support of external parties to undertake the procedures on its behalf.

Contract management

The responsibility for managing delivery under the contract, as well as supplier relationship management, will pass to the Maritime Response Group within Maritime NZ once the contract is signed. A contract- and relationship-management plan will be developed in consultation with the successful supplier as part of contract negotiations. Maritime NZ will seek a small amount of funding through Budget 2025 for project management costs related to the procurement of the preferred solution (outlined in the Financial Case).

Any variations to the contract during operation will be based on detailed analysis, including of impact on benefits and timeframes, and approved by the Chief Executive of Maritime NZ in writing and signed by both parties. Variations involving an increase in price will only be made within the limit of delegated financial authorities.

Specific reporting requirements for management of the contract will be agreed during negotiation with the supplier(s). An indicative performance regime is included in the next section.

Maritime NZ does not expect any new Intellectual Property (IP) to be developed through this arrangement. However, if any new IP is developed, ownership will be agreed on a case-by-case basis. Where new intellectual property has been developed by Maritime NZ or in conjunction with Maritime NZ, it is assumed that this will remain the property of Maritime NZ. Where intellectual property has been developed independently by the supplier to support their internal activities under the contract, this intellectual property is assumed to be retained by the supplier.

At least 18 months before the anticipated contract end, Maritime NZ will undertake a review to assess the ongoing need for EORC, including whether contracts should be renewed or services retendered.

Performance Regime and Payment Mechanisms

EORC services are likely to be infrequently used. Therefore, Maritime NZ needs to ensure there is no degradation of services over time or unplanned losses of response capability.

The payment mechanism and performance regime together ensure appropriate incentives are placed on the operator to deliver the required outputs for the Government and provide Maritime NZ with remedies in the event that the operator does not meet its obligations.

The payment mechanism and performance regime will both follow approaches adopted for other similar programmes where services are delivered on behalf of the Crown.

Performance Regime
The principles of the Performance Regime are detailed below:

- **Availability of services** (e.g. operational capability is available at the required response location, time spent in unplanned maintenance);
- **Availability of crew** (e.g. meeting the staffing requirements for 24/7 operations);

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- **Adherence to crew training requirements** (e.g. certification that all crew meet the minimum training required under the contract);
- **Adherence to vessel training** (e.g. participation in joint training, completion of drills and other agreed BAU training);
- **Adherence to vessel capability requirements** (e.g. certification that emergency response equipment is maintained, available, and meets the capability required); and
- **Performance in Emergency Response scenarios** – performance of the capability in actual response scenarios, for example time to respond, performance in maximum sea state, successful stabilisation or towage, functioning of firefighting equipment.

The contract will need to set out the targets the need to be met and the mechanism for assessing compliance under the contract (i.e. self-reporting, Maritime NZ audits, or external audits, incident performance reviews). Draft targets will be developed ahead of RFP release to enable bidders to provide alternative options for performance management.

Remedies for non-performance will need to be developed in the Heads of Agreement / Contract, including remedial obligations, financial penalties and Maritime NZ suspension/termination rights. The remedies mechanism will be included in the draft Heads of Agreement to ensure there is transparency with the supplier and that the supplier can propose alternatives during the RFP stage.

Payment Mechanisms

'Fixed' payment: The most likely approach to the payment of EORC services would be regular payments spread over the contract period (5-10 years) subject to relevant indexation. This even payment would be expected to cover the supplier's cost of capital and service delivery costs. A regular, fixed payment would be the simplest approach to administer and would provide certainty for both operator and Maritime NZ accounting purposes.

'Top-up': In place of a 'fixed' payment to the supplier, a 'top-up' model could be agreed. Under this model, Maritime NZ and the supplier would agree an operating cost of the ETV. Total commercial revenue generated would then be subtracted from this agreed operating cost with the Crown 'topping up' the balance to break-even (or break-even plus an agreed margin). The Crown contribution would need to be capped at a maximum amount to incentivise the supplier to maximise commercial revenue with the Crown being a safety net only.

It is likely that the supplier(s) will seek to separately charge MNZ for variable items under the contract (i.e. fuel costs which are likely to experience material price fluctuations over a multi-year contract). If this is required, MNZ will expect sufficient information to verify the costs incurred prior to making payments and would likely be linked to market rates. The contract will agree the mechanism for assessing and payment of variable costs, including any requirements regarding pre-notification or cost limits.

The EOI will set out the payment options Maritime NZ is open to and ask bidders to respond to or propose their preferred mechanism.

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Sharing of response revenues

s 9(2)(j)

Personnel implications

Ongoing management of the EORC contract arrangements, technical advice and any assurance activities during delivery will be managed by a mix of inhouse and external support. $200,000 will be sought as part of the Budget Bid to support this activity.

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Financial Case

The purpose of the Financial Case is to determine the funding requirements of the preferred option and to demonstrate that the recommended commercial arrangement is affordable. Specifically, the Financial Case sets out the:

- Approach to establishing project costs;
- Estimated project costs (including contingency);
- Potential funding sources;
- Impact on Maritime NZ's financial statements; and
- Overall affordability of the project.

Financial costing approach

The IBC contained initial cost estimates based on December 2023 market soundings. These costs included a degree of uncertainty but were sufficient to provide an indication of costs for decision-makers. To refine costs for the DBC and Budget 25 bid, RFI participants were asked to provide indicative cost estimates for their proposed capability and the potential Crown contribution required to offset their operating/capital costs.

Several RFI participants provided transparent cost information for their proposed solutions, including estimates of crew costs, general operating costs, and capital requirements. This information has been sufficient to refine cost estimates from the IBC, which were taken from a previous market sounding exercise in 2023 (where exact requirements were not known). Where multiple estimates were received for the same capability, an average cost has been used for this financial analysis. Some outlier estimates were excluded where fundamental assumptions (around commercial revenues or costs) did not align with other proposals.

Several RFI respondents specifically excluded unknown or variable cost items from their estimates such as training, management, berthing, and fuel costs. Respondents and Maritime NZ's technical advisors were asked targeted follow-up questions on these items to arrive at broad estimates for the DBC.

The costs reflected in the Financial Case are the best estimates available at this stage. Actual costs agreed during negotiations will vary based on the:

- **Exact specifications of the ETVs** – Operating costs increase materially as the size of a vessel and its engines increase. Additional capabilities (e.g. enhanced firefighting) may also impact overall costs for equipment, training, and maintenance;
- **Level of commercial revenue available to defray Crown costs** – We have assumed 40% of costs can be offset by commercial revenue for the First-strike and 50% for the Second-strike. However, this will need to be validated through procurement and Maritime NZ will be pushing to increase the level of commercial revenue generated and ensure the risk of achieving these commercial revenues sits with the operator; and
- **Impact of unknown/variable costs** – Through the RFI, we are confident that we have a greater understanding of costs than in the IBC. However, there may be

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additional unknown costs which are identified through procurement. Variable costs (e.g. fuel) have a material impact on potential costs to the Crown. These costs will vary over the life of the contract(s).

To account for the cost uncertainty, Maritime NZ has modelled three scenarios:

- **Estimated costs including contingency.** These are the anticipated costs that were articulated through the RFI with a 30% contingency applied. It is anticipated that this is the level of funding that will be sought through Budget 2025 (if a fully Crown funded solution is required);
- **Anticipated cost at RFP.** This is the cost estimate Maritime NZ expects to incur as articulated at RFI (with no contingency applied); and
- **Target cost at negotiation**. This is the target price range Maritime NZ will be seeking to achieve during negotiations with the preferred supplier(s). It is based on a 10% cost reduction on the anticipated cost at RFP, assuming no contingencies are required.

These three scenarios are described in more detail later in the Financial Case (Table 25).

Assumptions

Assumptions used in the financial modelling are included in Appendix 4.

The costs presented in this DBC only relate to the funding required to purchase EORC services. They do not represent the total cost of providing the services as operators are expected to partially fund the services through commercial revenue. The costs do not include actual incurred costs if an emergency response is required, as these costs are expected to be recovered from the owner and/or operator of the stricken vessel and/or their insurer.

Estimated costs (including contingency)

The estimated cost (including contingency) for the preferred option is set out in Table 24. This estimate is based on information provided through the RFI responses; includes any 'buffers' applied by respondents; and an additional 30% contingency added by Maritime NZ. Note that the cost profile reflects the potential maximum funding requirement. However, it does not consider potential sources of funding nor the savings that will be sought through the procurement and negotiations (both discussed in the next section). The actual Crown funding required is expected to be considerably lower than the figure shown in Table 24.

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[redacted]

[11] Note that as the contract is expected to begin halfway through FY25/26, the '10 year' contracts with the EORC suppliers take place over 11 financial years.

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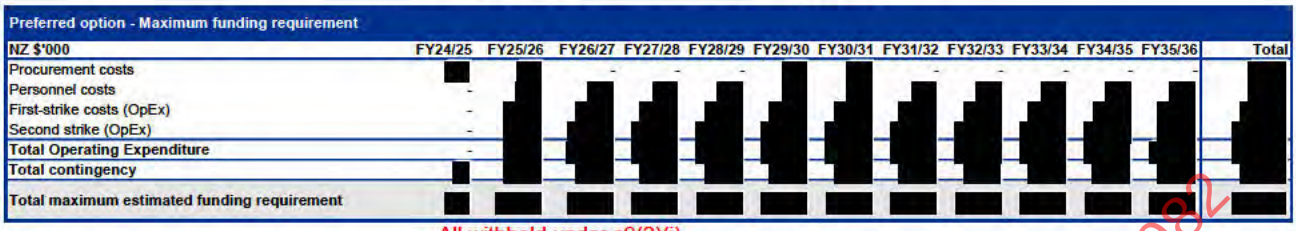
this DBC are more comprehensive (noting that some cost uncertainty will remain until formal proposals are received at RFP).

Table 24: Maximum estimated funding requirement of the preferred option



Preferred option - Maximum funding requirement												
NZ $'000	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30	FY30/31	FY31/32	FY32/33	FY33/34	FY34/35	FY35/36	Total
Procurement costs			-	-	-			-	-	-	-	-	
Personnel costs	-												
First-strike costs (OpEx)	-												
Second strike (OpEx)	-												
Total Operating Expenditure	-												
Total contingency													
Total maximum estimated funding requirement													

All withheld under s9(2)(j)

Table 24 includes procurement cost in the current financial year. These costs are to account for work required to prepare procurement documents, indicative contracts / Heads of Terms, and further refine the technical specifications ahead of and during procurement. This funding is not available in Maritime NZ's baseline and will need to be sought through Budget 2025. It also includes additional procurement costs in year five of the service to account for the likely need to renew the Second-strike service agreement.

Potential funding ranges

Maritime NZ has applied a 30% contingency to its cost estimate to account for changes in costs received at RFP / negotiated with the appointed supplier(s) and potential for changes in variable costs over the 10-year life of the contract. Maritime NZ's preferred option is to seek the maximum funding amount (including contingency) as part of Budget 2025 to be held in a tagged contingency in case it is needed (for example, if fuel costs exceed current estimates or new costs are identified during procurement). If Maritime NZ can fund these services through another source (described in the following section) or is able to reduce costs, then unused funding will be returned to the centre and not drawn down.

Maritime NZ will seek to minimise costs to the Crown/maritime users through (for example):

- Encouraging bidders to partner in the procurement (to increase the potential range of commercial activities available and reduce the level of 'risk' priced into bids);
- Seek proposals with a high degree of commercialisation opportunities, and certainty or confidence of commercial revenue (to reduce costs to the Crown);
- Seek further cost savings, cost reductions through the negotiation process (for example by taking on some cost risk for variable items (such as fuel) and seek to understand bidders' drivers for their contingencies, to reduce the level of 'buffer' that could be applied by bidders); and
- Consider commercial approaches that minimise costs to the Crown (for example 'top-up' funding models where Crown contributions decrease as commercial revenue increases).

Maritime NZ intends to have sufficient funding available to support the maximum estimated cost to the Crown if required. However, it intends to enter procurement with a smaller anticipated funding envelop (to guide affordability discussions during evaluation) and set a

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target of a 10% reduction in the supplier's RFP price during negotiations. The impact of these potential cost ranges is outlined in Table 25 below.

Table 25: Potential preferred solution funding ranges All withheld under s9(2)(j)

Potential costs ranges (Maximum, anticpitated, and target)												
NZ $'000	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30	FY30/31	FY31/32	FY32/33	FY33/34	FY34/35	FY35/36	Total
Maximum estimated cost													
Procurement costs													
Personnel costs	-												
First-strike	-												
Second-strike	-												
Total maximum estimated cost (For budgeting)													
Anticipated cost at RFP													
Procurement costs													
Personnel costs	-												
First strike	-												
Second-strike	-												
Total anticipated cost (RFP stage)													
Target cost at negotiation													
Procurement costs													
Personnel costs	-												
First strike	-												
Second-strike	-												
Total target cost (negotiation)													

s 9(2)(j)

Funding sources

Maritime NZ has considered a range of potential options for funding the preferred solution. These funding options include:

- New Crown funding (held in a tagged contingency);

s 9(2)(f)(iv)

- Response revenue.

New Crown funding

Maritime NZ could seek new Crown operating expenditure to fund the Crown costs of EORC services. If Crown funding is sought then it is likely to be in line with the profile shown in Table 24. Funding would be held in tagged contingency and only drawn down with joint Ministerial agreement.

Maritime NZ's view is that potential beneficiaries of EORC should contribute to the cost of providing those services, rather than relying entirely on Crown funding. The following funding options describe ways in which users could pay for part of or all the EORC funding requirement.

Even with move to 'user pays', Maritime NZ's preference is still to seek the full funding amount through Budget 2025 at this stage. Having funding certainty through Budget 2025 means that Maritime NZ can prevent an 'unfunded liability' and rapidly proceed to

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procurement before any changes to levies are confirmed (discussed later in the Financial Case). As soon as levy funding is confirmed, Maritime NZ can return excess Budget 2025 funding to the centre. If no new Crown funding is available, then procurement will need to be deferred until levy changes are implemented and sufficient levy funding has been built up to pay for EORC services.

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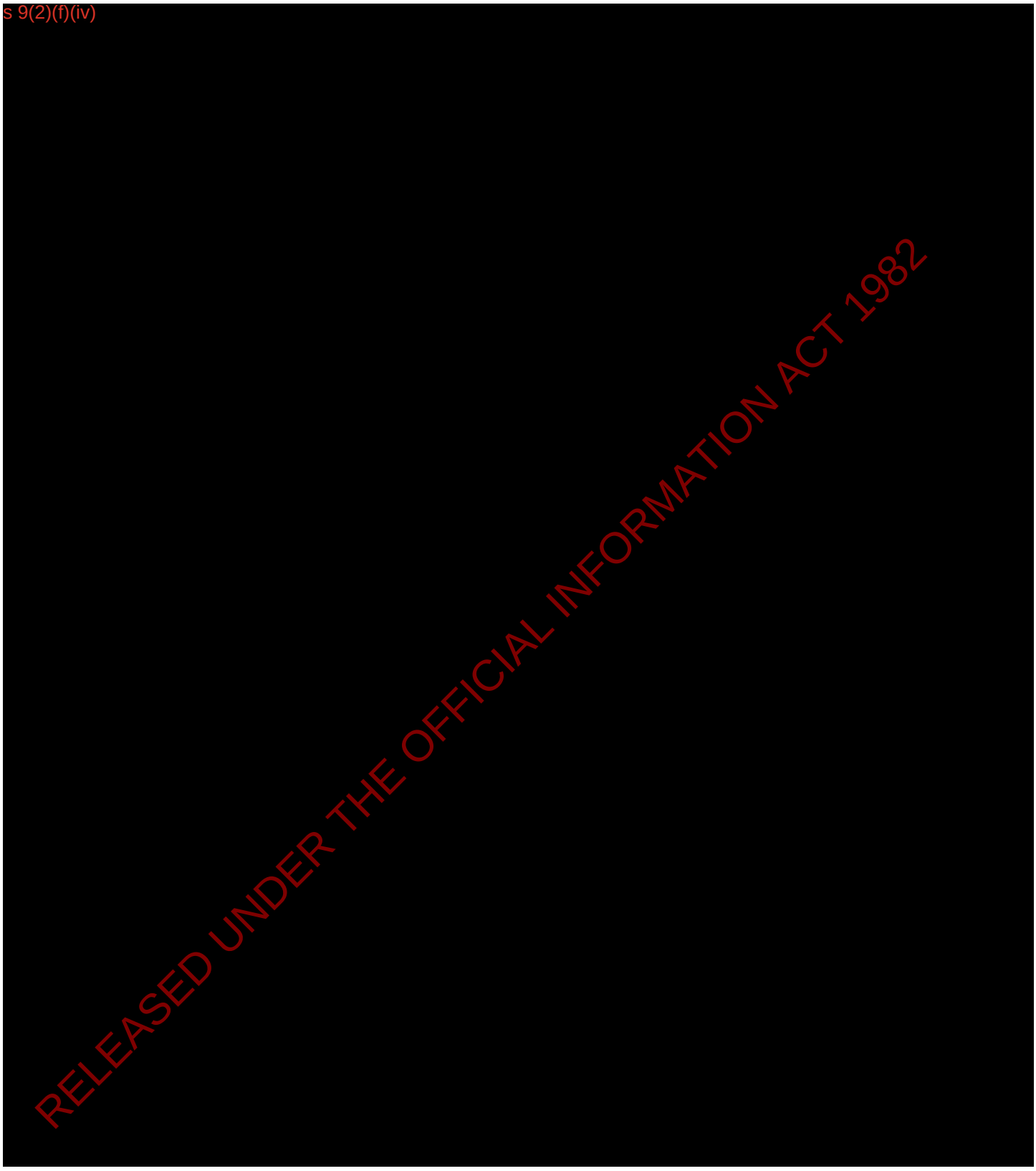
s 9(2)(f)(iv)



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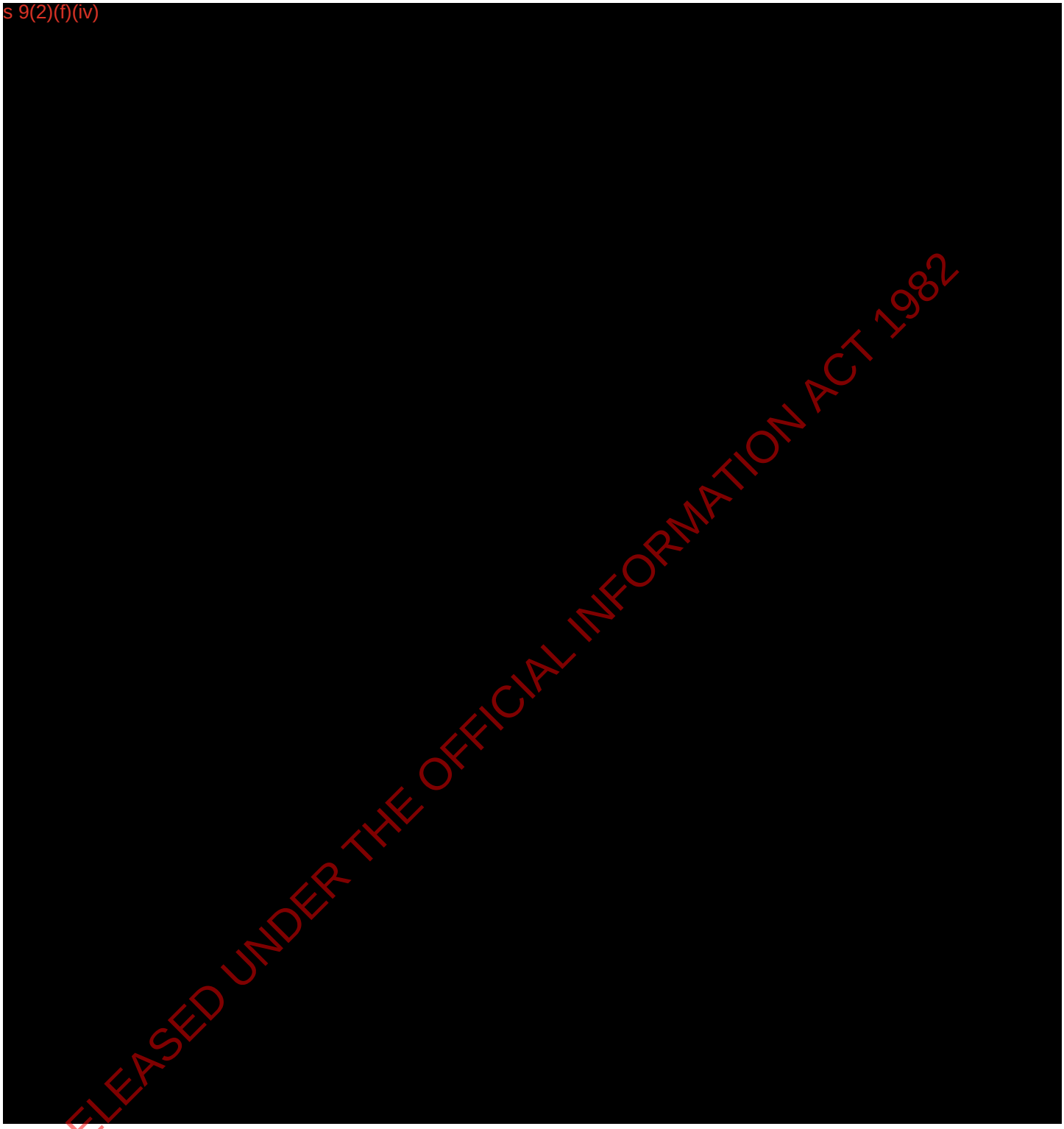

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s 9(2)(h)

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Response revenue

As discussed in the Commercial Case, there is potential for the Crown to cost recover some costs of the EORC services through sharing in the emergency response revenues funded by operators, owners or insurers. For the purpose of this DBC we have not assumed any offset from emergency response revenue. Incidents are too infrequent and potential day rates are too variable to account for these in the financial modelling. If a revenue sharing arrangement is reached, it is expected that any additional revenue will be returned to the Crown, used to offset user fees/levies, or used to fund Crown costs associated with any response activities.

Accountancy treatment

Maritime NZ intends to purchase EORC services from the market. It does not intend to purchase or have an ownership stake in any EORC assets. There is therefore no need to account for any assets on Maritime NZ's balance sheet or seek funding for Capital Charge or Depreciation. The cost of the contracted services will be paid from Maritime NZ's accounts unless another funding arrangement is agreed (as above).

Overall affordability

In light of the overall risk of losing future access to EORC vessels of opportunity in New Zealand and the options for reducing the level of Crown funding required / transferring costs to users, Maritime NZ considers the preferred 'First-strike – Second-strike' option to be affordable.

The overall affordability of the preferred EORC solution depends on the:

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- Availability of Crown funding through Budget 2025;
- Amount of commercial revenue available to offset costs; and
- Extent to which levies are used to offset direct costs to the Crown.

s 9(2)(f)(iv)

If this pathway is confirmed and agreed with Ministers prior to Budget 2025, Maritime NZ will reduce its Budget Bid accordingly. If confirmation of levy funding is not confirmed ahead of Budget 25, Maritime NZ will request that new Crown funding be held as a tagged contingency. If the full funding amount is not required, Maritime NZ will not seek Joint Ministerial approval to draw it down and will instead return excess funding to the centre. If Budget 2025 funding is not available, then Maritime NZ will need to delay procurement until changes to levies have been implemented. This will delay service commencement by at least two years and increase risk of a significant event not being able to be addressed in the interim.

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Management Case

Overview

The purpose of the management case is to describe the arrangements to ensure successful delivery of the programme and manage programme risk.

The Management Case describes the:

- Approach to programme management;
- Governance and decision-making frameworks;
- Project timelines;
- Change, benefits, and risk management approaches; and
- Project assurance arrangements.

The Benefits Management, Risk Management and Change Management approaches will continue to be developed once a preferred supplier(s) is appointed – as the nature of the package (e.g. service provider, service length, local vs international crewing, number of contracting parties) will influence delivery. Parts of these approaches that are provider-agnostic have been detailed in this Management Case.

Planning for successful delivery

The Management Case confirms that the proposal is achievable and details the arrangements needed to ensure successful delivery, manage risks, and focus on realising benefits.

Programme management strategy and framework

Maritime NZ employs a proven programme delivery model, which offers flexibility and collaboration, allowing quick adaptation to change and continuous value to be delivered to stakeholders. Maritime NZ's structure consists of cross-functional teams that work closely with stakeholders, including suppliers, to ensure alignment and responsiveness throughout the programme lifecycle.

This approach has been highly effective in managing complex, safety-critical programmes, such as the Provision of Distress and Safety Communications Service Programme. It allows work to be broken into manageable increments so that results can be delivered in shorter cycles and priorities can be adjusted based on feedback and evolving needs. Success in using this model is reflected in improved programme outcomes, increased stakeholder satisfaction, and enhanced ability to manage risks and quality.

Programme management arrangements

The proposed investment is not part of a wider programme. However, the project has direct dependencies with Maritime NZ's interim EORC solution. The same teams in Maritime NZ will manage both projects to ensure any dependency risks are addressed effectively.

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If Cabinet approves this investment proposal, a formal project team will deliver the required services. The skills, roles, and responsibilities of the project team and governance are as follows.

Proposed project governance arrangements

The EORC project will use a two-tier governance and programme structure, across both Maritime NZ and Ministry of Transport for this work. This governance group is the same that considered the IBC, DBC, and interim solution.

The decision-making governance structure comprises:

- Deputy Chief Executive Policy Group, Ministry of Transport
- Deputy Chief Executive, Response, Security and Safety Services, Maritime NZ (Project Sponsor)
- Manager Resilience and Security, Ministry of Transport
- Senior Responsible Owner, Maritime NZ

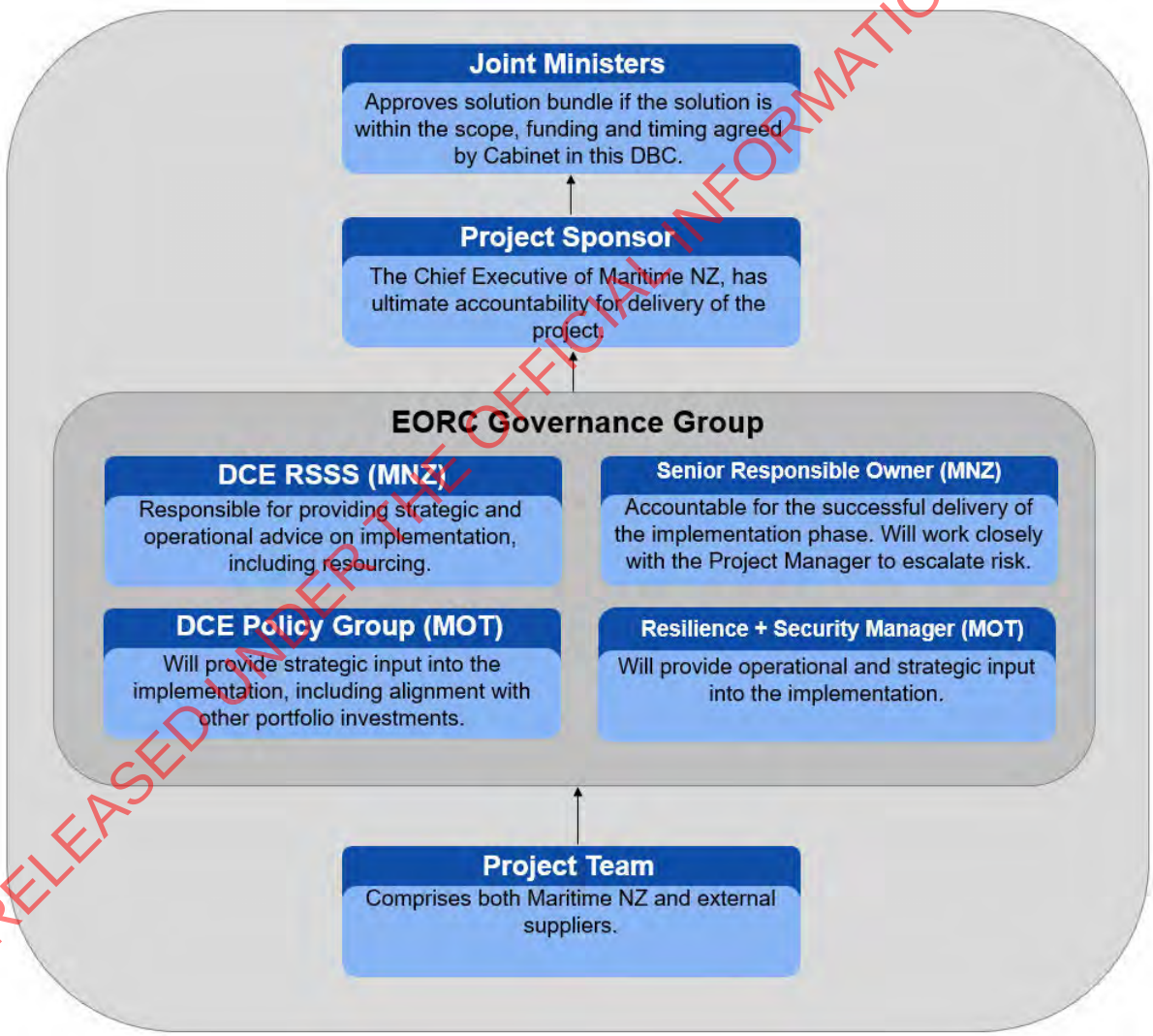

Figure 8: Proposed project governance arrangements

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Effective governance will ensure that the project is delivered within the scope, timing and funding allocated to it while managing risks and ensuring overall quality. A clear project governance structure will assist with decision-making, define project team roles and responsibilities, set clear expectations, and provide strategic oversight. Ultimately, the group will provide advice to the Project Sponsor and manage within any delegations given to it during the implementation phase.

Governance Responsibilities

The role of the EORC Governance Group is to provide oversight throughout the delivery of the project. Responsibilities of the EORC Governance Group include:

- Ensuring the agreed business benefits and programme objectives are met;
- Supporting the Project Sponsor to negotiate significant project constraints and risks as these emerge;
- Overseeing project delivery; and
- Approving, endorsing, or noting decisions made or elevated by the project team.

The Project Sponsor for this project is the Chief Executive of Maritime NZ. Overall, the Project Sponsor will:

- Provide overall strategic direction for the project;
- Provide ultimate project accountability and ensure that resources are available as required to deliver the project in accordance with project commitments;
- Adhere to agreed project budgets, appropriate delegations, and Maritime NZ policies;
- Establish delegations for the project team;
- Make project decisions and be the approval authority for project-related decisions escalated by the project team;
- Ensure project controls are adhered to; and
- Be the project advocate.

The Senior Responsible Owner (SRO) will:

- Hold overall accountability to deliver services and contractual management;
- Liaise with key senior stakeholders to ensure effective consultation and engagement;
- Brief the EORC Governance Group on progress; and
- Ensure that key risks, issues, and dependencies are visible to appropriate levels of governance and are managed in an efficient and effective manner.

Project roles and responsibilities

To support SRO and deliver the project, an integrated programme team comprising the core delivery team and external advisors will work together.

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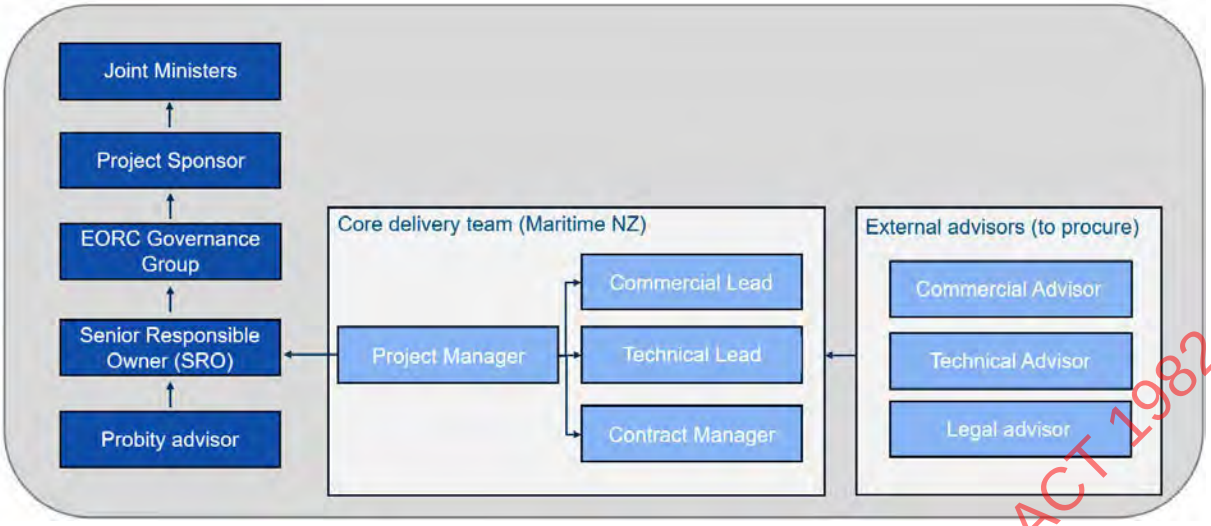

Figure 9: Integrated project team

Maritime NZ is the project owner and lead. External advice will need to be procured by Maritime NZ to support its baseline function – in the Commercial, Technical and Legal roles specifically. Taking this approach will ensure that Maritime NZ and external suppliers work together throughout the project, leveraging both external supplier and Maritime NZ expertise. This has been accounted for in the overall implementation cost and will form part of the Budget Bid.

Project Management resource costs will be funded as outlined in the Financial Case) and;

- Be responsible for delivering the project, meeting agreed quality, time and cost criteria;
- Manage and provide direction to the project team and ensure that the project objectives are achieved;
- Facilitate a project team culture that works together to deliver the project;
- Brief the SRO on progress;
- Be responsible for all reporting requirements; and
- Manage project quality, processes, procedures, budgets, resources, schedules, risk, issues, and performance throughout delivery.

The Commercial Lead, Technical Lead and Contract Manager contribute their expertise to the implementation, working closely with the Project Manager to deliver the project. The advisory functions will be procured externally to support the project delivery team within Maritime NZ.

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Programme reporting arrangements

Programme reporting enables effective management and allows for the key stakeholders involved to:

- Monitor progress to ensure alignment with Maritime NZ priorities and outcomes;
- Provide a channel for issue and risk escalation;

- Control the budget, resources, schedule, and deliverables associated with the programme to ensure overall objectives and benefits are delivered; and
- Engage effectively with the programme's stakeholders.

There are various levels of reporting required for the successful delivery of EORC. Reporting lines, and key accountabilities, are discussed in the above diagrams.

Project schedule and milestones

The procurement phase of this project is expected to run for seven months following approval of the business case as part of Budget 25.

The critical path is driven by the procurement process – with Maritime NZ aiming to procure a solution by late-Q4 of 2025. The project construct will be disestablished and transition into BAU contract management following the solution becoming in service, which is anticipated for Q1 2026.

The milestones, driven by procurement timeframes, and implementation plan are as follows:

Table 29: High level project schedule

Key Project Milestone	Approximate Date
DBC Approved by Cabinet	Mar 2025
Funding confirmed as part of Budget 25	May 2025
EOI Released to Market	May 2025
RFP Released to Market	July 2025
Preferred Supplier(s) appointed	September 2025
Contract(s) agreed with preferred supplier(s)	Q1 2026
Preferred solution in service	Q2 2026

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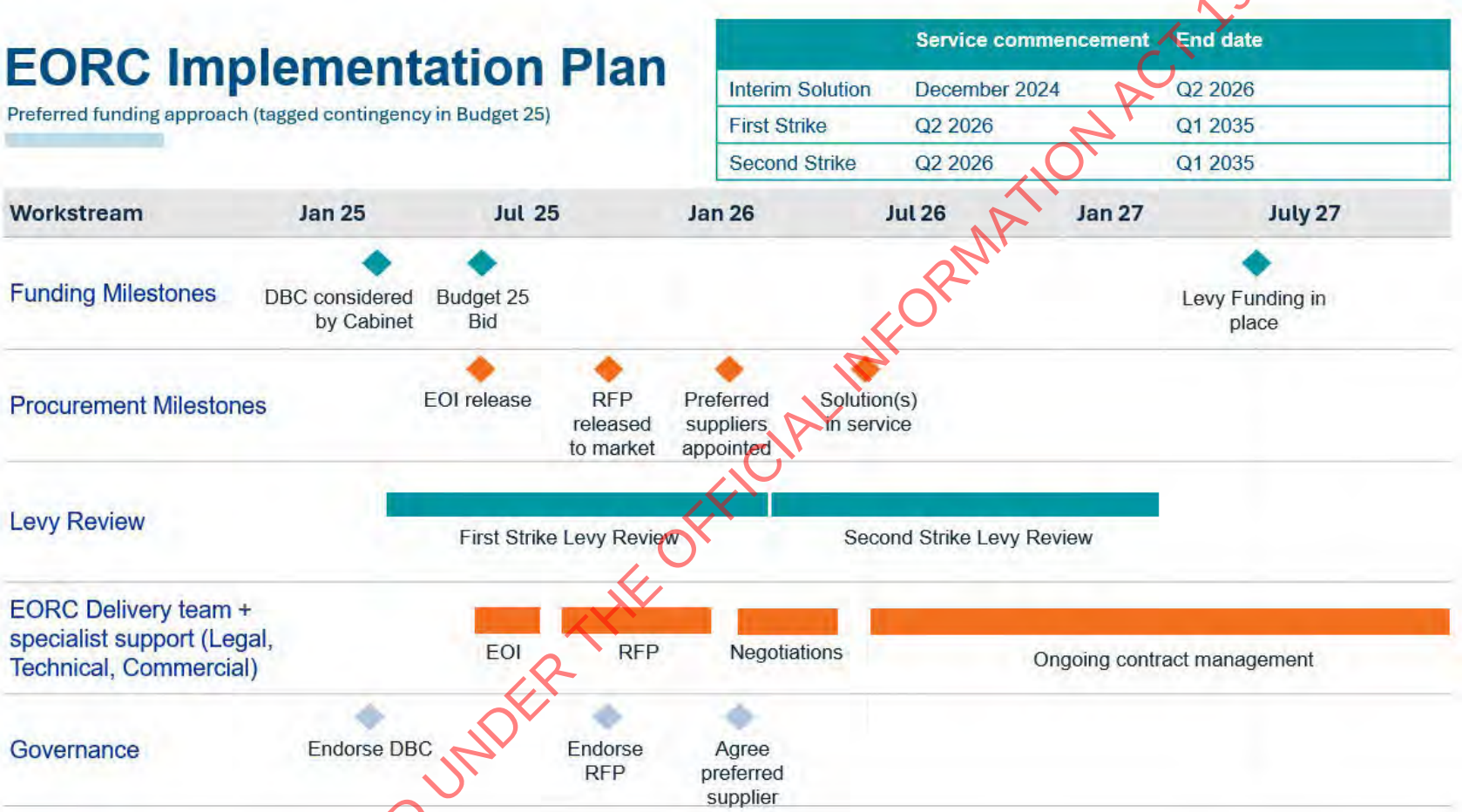
Figure 10: Outline programme plan



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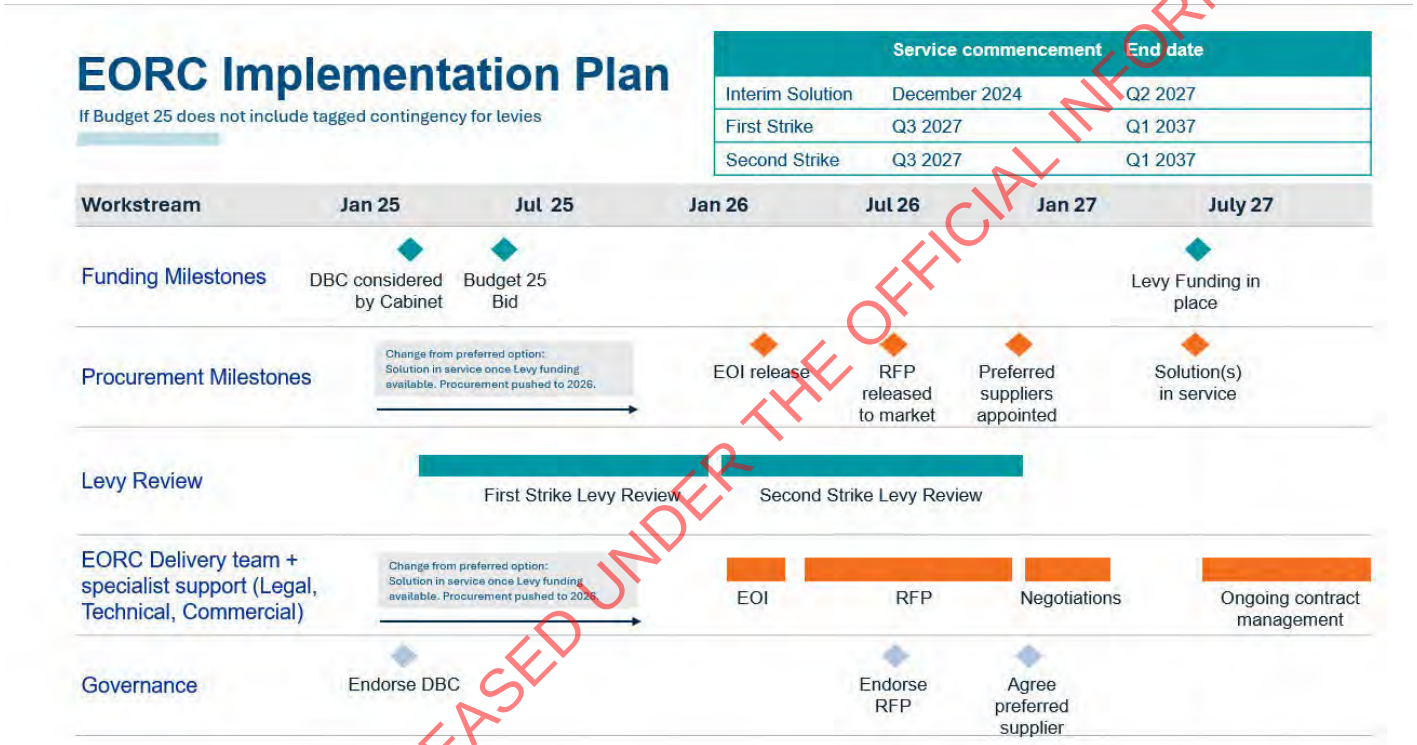
Alternative project schedule

While Figure 10 outlines the preferred phasing for implementation, it is reliant on sufficient Crown funding being allocated in Budget 25 to allow Maritime NZ to rapidly procure EORC services in good faith and to avoid contracting an unfunded liability. If contingency funding is not available, Maritime NZ will need to wait until new levy funding is agreed and in place before entering into service negotiations / contracting. Figure 11 represents this implementation project schedule. A delayed schedule may require separate procurement of the First-strike and Second-strike which will have an impact on costs and the 'package' of EORC able to be procured.

Figure 11: Alternative Project Schedule



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Change management planning

A change management plan documents how Maritime NZ will address the organisational change impacts of this work, including preparing for, managing, and sustaining the change.

The draft change management plan has been completed based on those project elements that will not change depending on the final commercial approach implemented. Depending on the preferred supplier(s) chosen and the specifics of the package (e.g. if it is a local or international crew/operator, utilising existing capability, etc), the impacted stakeholders, communications and training requirements will vary.

There is unlikely to be substantial organisational change associated with this programme. Maritime NZ will be required to manage a procurement process and resulting contract(s). However, Maritime NZ will be supported by external advisors and the Ministry of Transport as required. Management of the contract will be delivered as part of BAU Maritime NZ workload.

The key elements of the change management approach are set out in Figure 13, with detail provided in Appendix 8.

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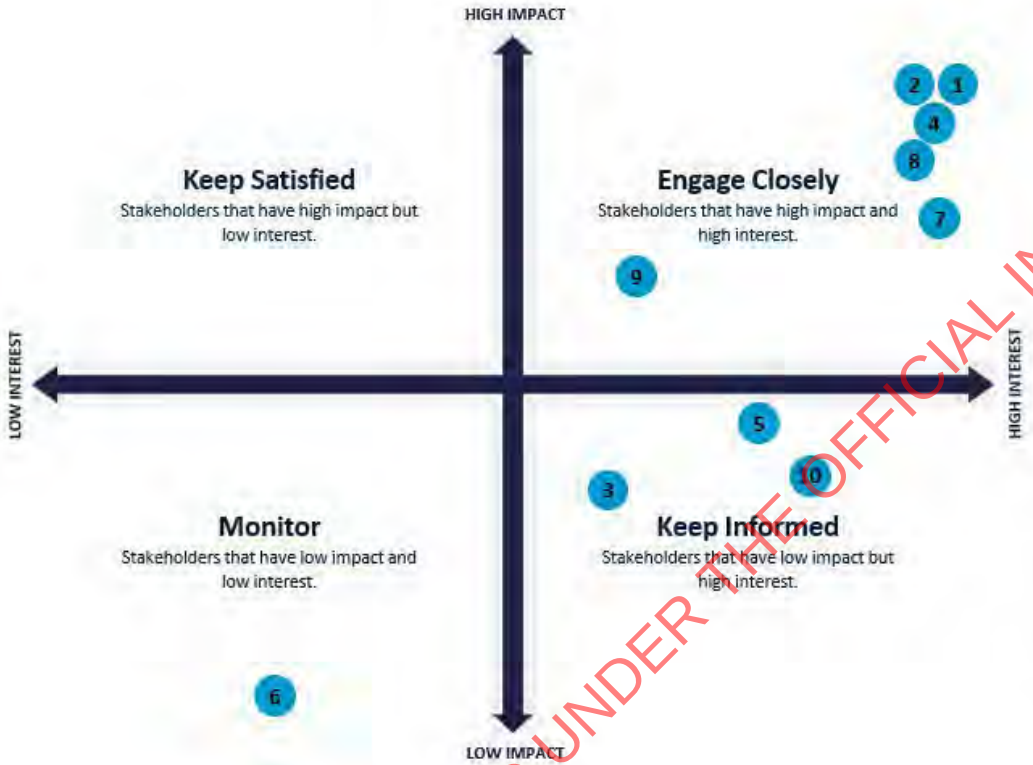
Figure 12: Stakeholder impact assessment



Key Stakeholders Groups

Key stakeholder groups:	
1	Maritime NZ
2	Ports (Wellington and Picton)
3	Ports (others across NZ)
4	NZ seafarers
5	Frequent users of the Cook Strait (Interislander and Blue Bridge Ferries)
6	Other commercial vessels in NZ waters (commercial ships, cruise ships)
7	Maritime passengers (Interislander and Blue Bridge Ferries, commercial ships, cruise ships)
8	(Government Ministries) Ministry of Transport and Treasury
9	Ministers of Transport and Finance
10	Harbour tug seafarers

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The stakeholder impact analysis above assesses the levels of impact and interest of the key stakeholders identified. It has been used to determine how often and in what way to engage with the most influential stakeholders (outlined in more detail by the stakeholder analysis in Appendix 6).

Our focus at this stage is the “Engage Closely” group of stakeholders. Their input is required at each step of the project to ensure that our preferred solution will address the right problems, remains strategically aligned, and that the investment will be operationally feasible.

The analysis confirms that our existing governance, management, and procurement approaches are fit for purpose. In particular, the groups in the Engage Closely quadrant have been involved in forming this business case. This includes through involvement in the market engagement, formal governance processes, or workshops to develop content.

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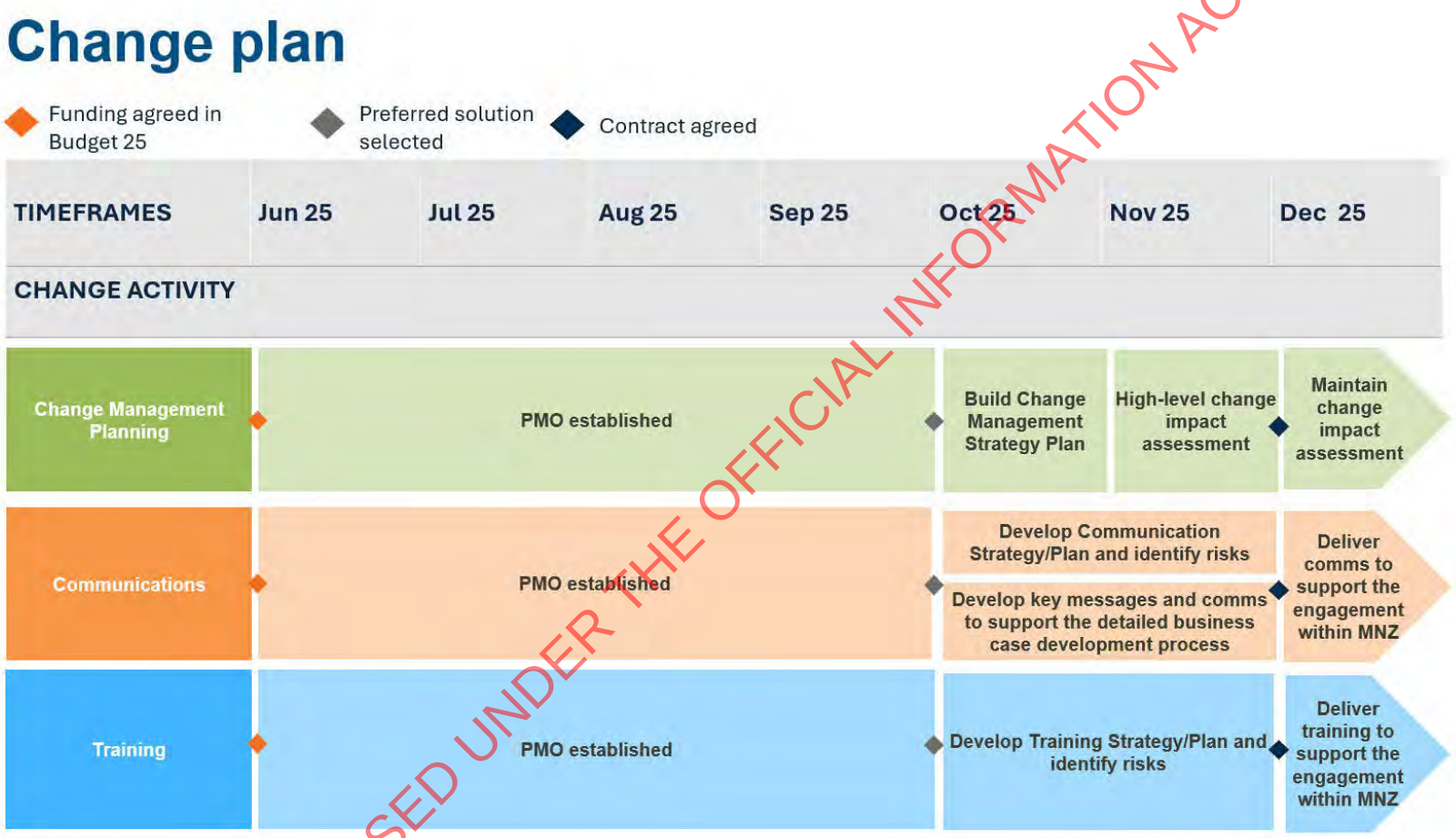
Figure 13: Change management plan



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The purpose of a change management plan is to describe what will be delivered, by whom, and when in terms of change management activities. We don't expect there to be significant change management, communications, or training requirements for this project. We anticipate needing to engage with and communicate on changes to maritime rescue procedures, additional training requirements (including for ferry crews), and any changes to levy arrangements, but expect to be able to leverage existing channels to engage in these activities. There may be additional requirements for change, communications and training depending on the nature of the preferred solution.

In addition to Maritime NZ's change, communications and training activities, Maritime NZ is seeking to procure existing commercial operators who would need to interact with their own stakeholders often on a commercial basis. For example, an impacted stakeholder would be a port that would need to negotiate for berthing space, but this would be handled by the service provider as they would any other commercial arrangement. A preliminary analysis of the likely change impacts is provided in Appendix 7 and expected change activities have been included in Appendix 8.

A detailed communications and training plan will need to be developed for staff as outlined in the change plan after the contract for services is awarded and the impacts can be better understood.

Benefits management planning

This project will manage benefits delivery in accordance with published Treasury guidance. The arrangements for the management and delivery of benefits are in the Benefits Realisation Plan attached as Appendix 9.

This project will:

- Report back to Cabinet within 12 months after the in-service date on the actual level of benefits achieved compared with those approved in this DBC.
- Provide information to Treasury at agreed intervals on the actual level of benefits achieved compared with those identified in this DBC.

The primary benefit of having EORC readily in New Zealand waters is to reduce the risk of escalation in a marine incident.

Maritime NZ and the Ministry of Transport held a workshop to develop the different areas of benefits that this reduction of risk would bring to New Zealand society, environment, and economy. From this workshop, we identified that other peripheral benefits that were outlined in the Indicative Business Case, such as public trust and vessels' commercial value, have much lower levels of significance and are reliant on intangible variables for measurement. They have been excluded from the final benefits list. Details of the benefits of having EORC vessel(s) are listed in Appendix 9.

The realised benefits are represented through lead indicators, which is both the timeline for procurement and general readiness of the vessel(s) for operation. Lag indicators for benefits realisation can only be observed during the response and relief process of an incident. For the benefits of stationing EORC vessel(s) in New Zealand waters, lag indicators are

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measured through the proxies of response time, including response time to stabilise the stricken vessel and to tow the vessel to safe harbour.

A detailed benefits management plan will be created in the implementation phase. The detailed benefits management plan will specify the baseline and KPIs for benefits measurement, as well as the specific benefit owners and their responsibilities in ensuring the management of benefits. A benefits management plan cannot be developed at this stage as many measures (including time to response and distance to safe harbour) are contingent on what capability is available in market. This needs to be confirmed through the EOI and RFP.

Benefits of having the EORC vessel(s) in New Zealand waters are mapped from the initial investment objectives, as outlined in the Strategic case. The benefits are as below:

1. Enhances the safety of maritime users through reduction of the risk of a significant maritime incident in the Cook Strait.
2. The Cook Strait environment is protected by rapid response to prevent accidents / minimise the damage resulting from incidents.
3. Decreases likelihood of indirect and direct costs and impacts as a result of vessel loss, salvage, and operating impacts.

These benefits will contribute to the overall strategic outcome of the investment in EORC vessel(s) capabilities for MNZ, which is to effectively manage incidents in New Zealand's waters by uplifting New Zealand's readiness, response, rescue, and recovery capabilities.

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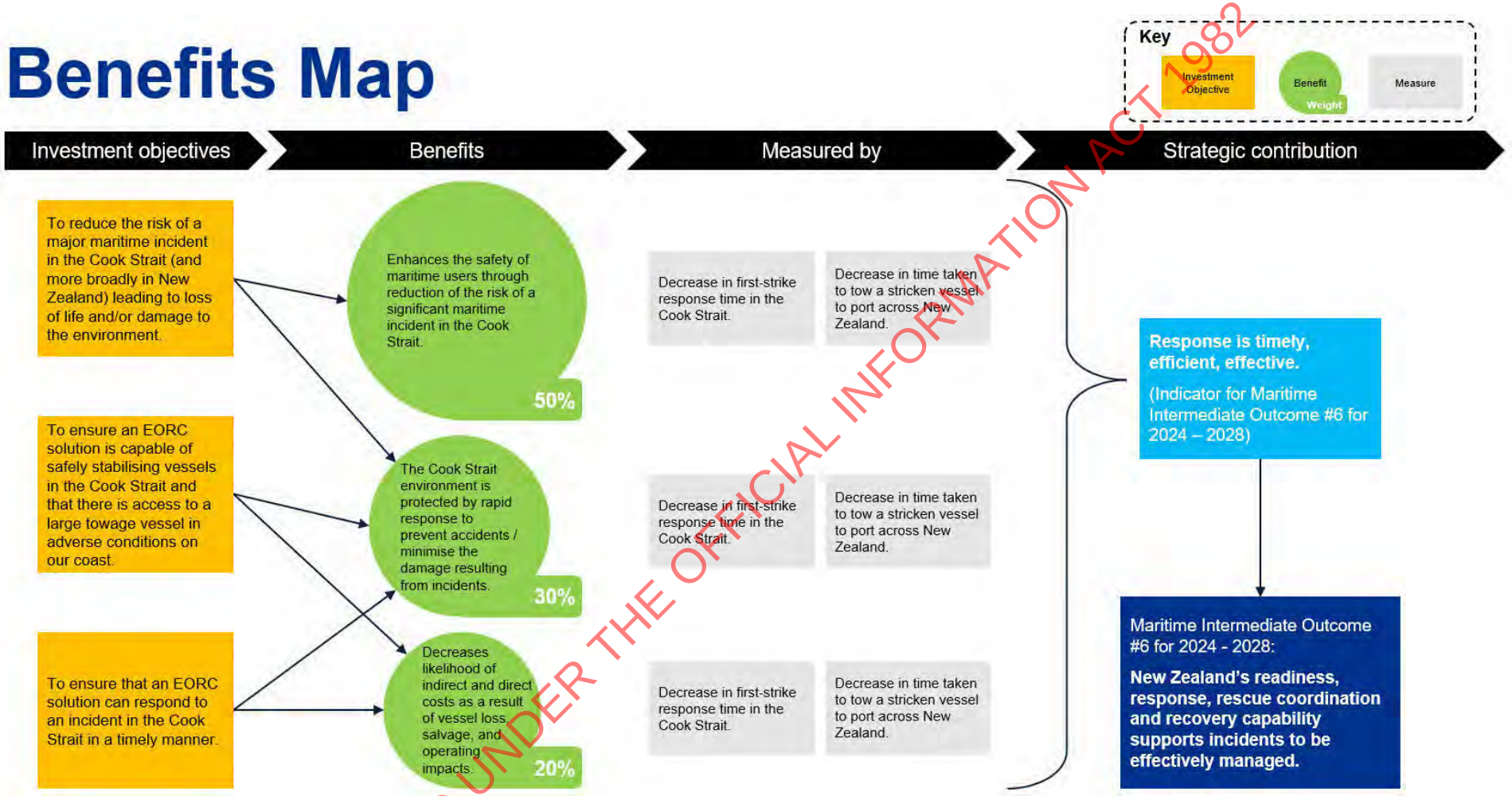

Figure 14: Benefits Map

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Risk management planning

A Risk Management Strategy & Framework has been developed for this project. Responsibility for risk management has been assigned and a risk register established; this will be progressively updated as more detailed analysis is undertaken during and post-procurement.

Risks should be considered as part of programmes and in our day-to-day work. Maritime NZ has an Enterprise Risk Management policy, aligned to the New Zealand standard ISO 31000:2018 Risk management – guidelines. Maritime NZ manages risks using the lifecycle process.

Key to this process is the programme risk and issue register which is used to record and manage all programme risks. A risk scoring system will be used to more effectively identify risks for escalation and prioritisation that is based on likelihood, consequences, timeframes and impact horizon.

Initial Implementation risk register

The register lists all risks identified in this and earlier business cases, actions taken to mitigate them, and includes current status information (Table 30). The risk register will be regularly reviewed and updated throughout the course of the project.

The risk register below details the risks we have deemed as the top 5 risks to the project. All risks can be found in the risk register in Appendix 5.

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Table 30: Risk register: Top 5 risks

Risk	Actions taken to mitigate	Likelihood	Impact	Overall risk rating	Post mitigation risk rating	Owner	Current status	Risk Category
The EORC vessel may not be fit for purpose for operating in the Cook Strait due to its unique geographic constraints.	The challenges of the Cook Straight have been assessed and the EORC vessel(s) will be specified to withstand operations in the Cook Straight. Any operating limitations of proposed solutions will be clearly articulated and understood.	M	H	H	L	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Implementation
If the market lacks the capability, capacity, or appetite to support the proposed solution, then the investment may not deliver the full EORC benefits.	Initial market sounding has confirmed interest from a range of parties. Further market engagement will take place through technical assessment and a Request for Information from the market to understand capacity, vessel availability, and other key elements. Consideration will be given to domestic and international operators.	L	H	M	L	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Implementation
If requirements are not well understood during the procurement, then a suboptimal solution may be procured.	This will be mitigated through defining technical and operational requirements early, market engagement, and input from subject matter experts. The preferred way forward will need to include the flexibility to pivot if requirements change during procurement.	L	H	M	L	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Implementation
If commercial revenues decrease or are no longer available, then the EORC services may no longer be viable	Request information on the certainty of commercial revenues during procurement. Include the ability for the Crown to fully fund or increase Crown funding for the services if required.	M	H	H	M	Graham Maclean (DCE Response Security and Safety Services)	To be managed through procurement and contract Heads of Agreement	Operational
If there is not the right mix of procurement, contractual and technical capabilities in the project team, considerations may be missed and introduce additional risks across the lifespan of the investment.	An assessment will be conducted to determine and assess procurement options.	M	M	M	L	SRO for project team (TBC)	To be managed upon establishment of project delivery structure	Implementation

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Project and business assurance arrangements

Project and business assurance
This project is not subject to a Gateway review as it has been assessed by the Treasury' Risk Profile Assessment Tool as Medium Risk.

This investment proposal was initially assessed as high risk using the Treasury's Risk Profile Assessment tool, which was confirmed by the moderation process. This was based on the initial suite of options which included higher risk possibilities. After a shortlisting process it became apparent that the higher risk options would not be viable. This meant that the risk was re-assessed as Medium.

Internal business assurance for implementation will be undertaken through regular Governance Group meetings and tracking of key risks and spend by the Project Manager and SRO.

In addition, external assurance will be sought from key stakeholders (e.g. Ministry of Transport and Treasury), international partner agencies (Australia Maritime Safety Authority) and independent external providers for an Independent QA (IQA) as outlined below.

Key assurance activities will be regularly reviewed and updated on a three-monthly basis at a minimum to ensure the assurance activities align to the decisions and milestones and any emerging risks. This will involve undertaking regular reporting to the Governance Board by the Senior Responsible Officer.

Quality assurance (QA)
Independent Quality Assurance, in addition to the quality assurance controls in place through the governance and stakeholder engagement roles, will take place at the appropriate stage of implementation with advice provided to the SRO. It is expected these assurance processes will take place based on the following indicative sequence:

- **External Review (planning)**: Is the implementation set up to be successful? The DBC will be considered for review by the Treasury and Ministry of Transport ahead of going to Cabinet, including assessing the preferred option and its cost; and
- **IQA / post-project evaluation (benefits realisation post-implementation)**: Is the implementation delivering the desired outcomes and benefits? As required by *Cabinet Office Circular CO (19) 6*, this will take place following the first year of service for the procured solution(s).

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Appendix 1: Shortlist option comparative risk assessment

Table 31: Shortlist option risk assessment

	Option 1: Status Quo			**Option 2:** Local First-strike capability (Do minimum)			**Option 3:** Local First-strike and national Second-strike capabilities				
Implementation Risks	**Likelihood**	**Impact**	**Description**	**Likelihood**	**Impact**	**Description**	**Likelihood**	**Impact**	**Description**		
No vessels of opportunity remain in / return to NZ market	H	H	If no vessels of opportunity return to NZ waters, there will be no EOR-capable vessels in NZ – impacting the ability to mitigate risks from a maritime incident.	H	M	Medium impact as ability to tow will need to be sourced overseas.	H	L	Low impact as vessels will remain in New Zealand.		
An incident requires a rapid EORC response in the Cook Strait	M	H	Reliant on vessels of opportunity – these may or may not be present in NZ waters and will most likely be based in Taranaki (too late to respond rapidly).	M	M	Initial hold would be available that could stabilise a vessel in distress. To tow the vehicle back into port would require a vessel of opportunity in NZ waters – likely to take over a week.	M	L	Low impact as capability will be in place to hold in the Cook Strait and tow within a reasonable timeframe.		
No market interest to partner	N/A	N/A	N/A – no partner required.	L	H	The RFI confirmed that there is sufficient interest from the market for the provision of First-strike services in the Cook Strait (albeit with potentially greater Crown funding contributions required).	L	H	The RFI confirmed that there is sufficient interest from the market for both the First-strike and Second-strike solutions (albeit with potentially greater Crown funding contributions required).		
No suitable vessels are available in a reasonable timeframe	N/A	N/A	N/A – no need to go to market.	L	H	RFI participants did not indicated significant concerns around the ability to source vessels (noting a 12-18 month timeframe for a new build).	L	H	RFI participants did not indicated significant concerns around the ability to source vessels (noting a 12-18 month timeframe for a new build).		
Composition of vessels transiting Cook Strait changes significantly	L	H	High impact as no ability to ensure private vessels are still EOR capable.	L	M	This risk cannot be avoided across procured solutions but can be mitigated partially through scoping of vessel requirements (e.g. procure a vessel that retains some flexibility to adapt if required or is suitable for larger than required vessels). Likely to be more of an issue for First-strike capability which may not be able to hold the largest of vessels.	L	M	This risk cannot be avoided across procured solutions but can be mitigated partially through scoping of vessel requirements (e.g. procure a vessel that retains some flexibility to adapt if required or is suitable for larger than required vessels). Likely to be more of an issue for First-strike capability which may not be able to hold the largest of vessels.		
Ranking	**3**			**2**			**1**				

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Appendix 2: Critical Success Factors

The following critical success factors (CSFs) were agreed by stakeholders at the facilitated options workshop held on 8 July 2024. Stakeholders agreed to use the Treasury's standard CSFs and the generic descriptions as shown in Table 32.

Table 32: Critical success factors

Key critical success factors	Broad description
Strategic fit and business needs	How well the option: • Meets the agreed investment objectives, related business needs and requirements; and • Fits with other strategies, programmes and projects.
Potential value for money	How well the option: • Optimises value for money (i.e., the optimal mix of potential benefits, costs and risks).
Supplier capacity and capability	How well the option: • Matches the ability of potential suppliers to deliver the required services (in particular the ability of the supplier to leverage existing capability / knowledge to rapidly deploy the services required); and • Is likely to result in a sustainable arrangement that optimises value for money over the term of the contract.
Potential affordability	How well the option: • Can be met from likely available funding; and • Matches other funding constraints.
Potential achievability	How well the option: • Is likely to be delivered given the organisation's ability to respond to the changes required; and • Matches the level of available skills required for successful delivery.

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s 9(2)(ba)(i)

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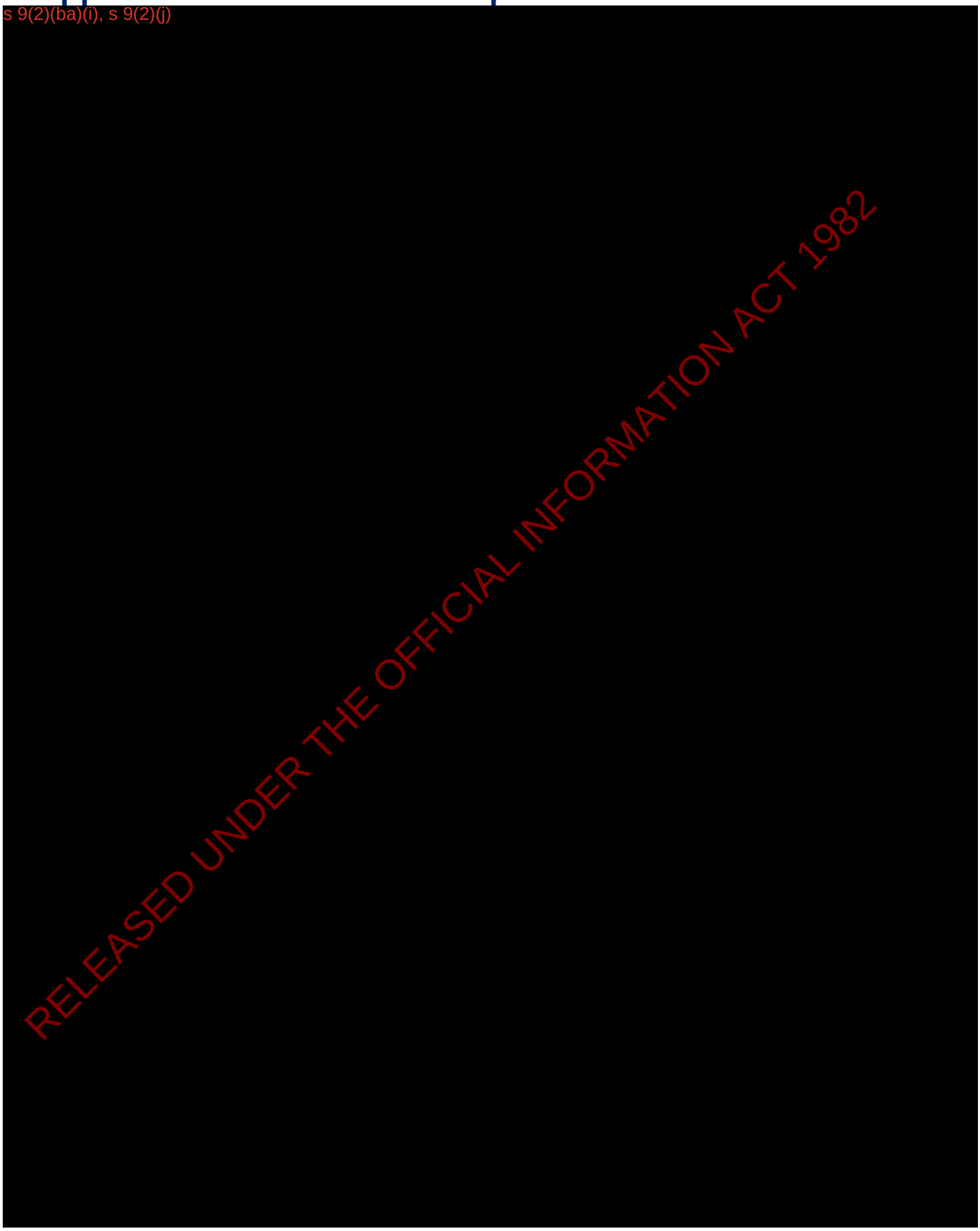
Appendix 4: Financial assumptions

s 9(2)(ba)(i), s 9(2)(j)



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s 9(2)(ba)(i), s 9(2)(j)

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Appendix 5: Full list of risks

Table 35: Full list of Management Case risks

Risk	Actions taken to mitigate	Likelihood	Impact	Overall risk rating	Post mitigation risk rating	Owner	Current status	Risk Category
The EORC vessel may not be fit for purpose for operating in the Cook Strait due to its unique geographic constraints.	The challenges of the Cook Straight have been assessed and the EORC vessel(s) will be specified to effectively operate in the Cook Straight.	M	H	H	L	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Implementation
New EORC vessels have an increased risk for incidents as they enter service.	Extensive pre-service testing and sea trials implemented to identify and address any potential issues with the vessel's performance and systems.	M	M	M	L	TBC	To be managed upon establishment of project delivery structure	Implementation
If commercial revenues decrease / are no longer available, then the EORC services may no longer be viable.	Request information on the certainty of commercial revenues during procurement. Include the ability for the Crown to fully fund or increase Crown funding for the services if required.	M	H	H	M	Graham Maclean (DCE Response Security and Safety Services)	To be managed through procurement and contract Heads of Agreement	Operational

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Risk	Actions taken to mitigate	Likelihood	Impact	Overall risk rating	Post mitigation risk rating	Owner	Current status	Risk Category
If the market lacks the capability, capacity, or appetite to support the proposed solution, then the investment may not deliver the full EORC benefits.	Initial market sounding has confirmed interest from a range of parties. Further market engagement will take place through technical assessment and a Request for Information from the market to understand capacity, vessel availability, and other key elements.	L	H	M	L	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Implementation
If requirements are not well understood during the procurement, then a suboptimal solution may be procured.	This will be mitigated through defining technical and operational requirements early, market engagement, and input from subject matter experts. The preferred way forward will need to include the flexibility to pivot if requirements change during procurement.	L	H	M	L	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Implementation
If the operating environment changes during the lifespan of the solution, then the solution will not be fit for purpose.	This will be mitigated through engagement with stakeholders (e.g. cargo and ferry operators, international maritime organisations). We will also consider contractual arrangements that can respond to changes in the operating environment.	M	M	M	L	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Operational

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Risk	Actions taken to mitigate	Likelihood	Impact	Overall risk rating	Post mitigation risk rating	Owner	Current status	Risk Category
If the government cannot provide certainty over long-term EORC availability, then the willingness of maritime operators to use the Cook Strait may be negatively impacted.	This will be mitigated through early and proactive engagement with key stakeholders, and through clarity of the preferred way forward once agreed by decision makers.	L	H	M	L	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Implementation
No suitable vessels are available for purchase in a reasonable timeframe.	A market assessment will be conducted to determine the ease of purchase of a suitable vessel in a reasonable timeframe.	M	H	H	M	Graham Maclean (DCE Response Security and Safety Services)	In progress (requirement being gathered as part of market sounding)	Implementation
Composition of vessels transiting Cook Straight changes significantly.	This risk cannot be avoided across procured solutions but can be mitigated partially through scoping of vessel requirements.	L	M	M	L	TBC	To be managed upon establishment of project delivery structure	Operational
If there is not the right mix of procurement, contractual, and technical capabilities in the project team, considerations may be missed and introduce additional risks across the lifespan of the investment.	An assessment will be conducted to determine and assess procurement options.	M	M	M	L	SRO for project team (TBC)	To be managed upon establishment of project delivery structure	Implementation

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Appendix 6: Stakeholder Impact Analysis

Key Stakeholders Groups

Key stakeholder groups:	
1	Maritime NZ
2	Ports (Wellington and Picton)
3	Ports (others across NZ)
4	NZ seafarers
5	Frequent users of the Cook Strait (Interislander and Blue Bridge Ferries)
6	Other commercial vessels in NZ waters (commercial ships, cruise ships)
7	Maritime passengers (Interislander and Blue Bridge Ferries, commercial ships, cruise ships)
8	(Government Ministries) Ministry of Transport and Treasury
9	Ministers of Transport and Finance
10	Harbour tug seafarers

There are three main clusters of stakeholders in the impact analysis graph. The first being the cluster closely grouped in the 'Engage Closely' quadrant. These are the people who should be fully engaged and satisfied. The stakeholders in this area are Maritime NZ, Wellington and Picton Ports, New Zealand seafarers, and Government Ministries. Ministers of Transport and Finance are also in the 'Engage Closely' quadrant but are lower down compared to the others as they are expected to have slightly less impact and interest. These stakeholders have been placed in this area as they all have a high interest in the project, in terms of its value that it will provide in saving lives, and that the project has a high dollar value associated. They are also highly impactful stakeholders in which they will have an impact on the success of the project, and the process and outcomes of the project will have an impact on them.

The other cluster is in the 'Keep Informed' quadrant. These are the people who need to be kept informed and be ensured that no major issues are arising. These people are helpful to have as part of the project's network and will usually be available to provide more details on a project. For this project, this cluster includes other Ports across New Zealand, frequent users of the Cook Straight (Interislander and Blue Bridge Ferrys), and Harbour tug seafarers. These stakeholders have been placed here as they still have a relatively high interest in the project, but they have less impact on the project or the project has less influence on them.

The final small cluster is in the 'Monitor' quadrant and includes other commercial vessels in New Zealand waters (commercial ships, cruise ships) and maritime passengers. The stakeholders in the 'Monitor' quadrant are people who should be kept in mind but will not require excessive communication and engagement. These stakeholders have been placed in this part of the graph as they have significantly less interest in and impact on the project. Their day-to-day operations will be largely unchanged.

The final quadrant is 'Keep Satisfied'. The stakeholders in this area are the people who need to be kept informed of the project, but not so much that they become bored with the project's messages. There are no stakeholders in this area for this project as there were not any stakeholders with a high impact but low interest. All stakeholders who have a high impact

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also have a high interest, and the stakeholders that have a low interest also have a low impact.

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Appendix 7: High-level change impact assessment

To understand the potential impact of changes for stakeholders, we have mapped out the likely impact of changes that regardless of the option chosen, are going to have a high impact on stakeholders. A detailed change impact assessment, including proposed mitigations, will need to be completed upon the selection of the preferred supplier.

Change	Role	Impact Rating	Impact	Mitigation
Have to contract manage a new vessel	• Maritime NZ	H	• New roles and responsibilities • Training required • Additional legal/regulatory impacts e.g. levy changes	• Staff are clear on their roles and responsibilities through change management channels • Staff are clear on requirements that come with the new vessel
New operating procedures	• Seafarers • Maritime NZ	H	• Work may be impacted while getting new ship ready for use • New operating procedures have to be learned and understood • Need to communicate any procedure changes on maritime rescue	• Ensure processes are in place for work to continue BAU in the mean time • Appropriate training in place • Operating procedures are implemented and adhered to
Additional vessel in port	• Seafarers • Ports (Wellington/Picton and others across NZ) • Frequent users of the Cook Straight	H	• Increased congestion • Higher operational costs for managing the stationary ship • Infrastructure strain due to additional berthing space required	• Increased management at port • Port involvement in requirements gathering
Additional equipment required on ferry's *dependent on regulatory requirements yet to be released	• Frequent users of the Cook Straight (Interislander and Bluebridge ferries) • Seafarers • Maritime NZ	H	• Seafarers need to know how to use the equipment • Rules in place for the new equipment – ensuring it is up to standard	• Training for seafarers • Rules are in place
Train (ferry) vessel crews on how to work with EORC	• Frequent users of the Cook Straight (Interislander and Bluebridge ferries) • Seafarers	H	• Seafarers and vessel crew members ways of working need to be updated to ensure EORC knowledge • Training required for seafarers and vessel crew	• Training plan in place • Ensure crew are supported to follow any changes to their current ways of working

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Appendix 8: Change Management Activities

The change management activities we expect to see that should be completed during implementation and once commercial arrangements have been agreed include:

- **Change management planning**
  - Evaluating the current operations and identifying the impact of the new vessel.
  - Planning which change activities will be most relevant to those impacted.
- **Roles and responsibilities for managing the change**
  - Roles and responsibilities will need to be determined. This will involve allocating roles to appropriate individuals such as a training coordinator, communicators manager, etc.
- **Stakeholder analysis**
  - Includes identifying stakeholders, mapping stakeholders, and assessing the needs, expectations, and concerns of each stakeholder group.
  - Stakeholder analysis could be done as a know-feel-do analysis.
- **Stakeholder engagement**
  - Involves developing a tailored engagement plan for how and when to communicate with each stakeholder group identified in the stakeholder analysis.
  - Engagement methods could include stakeholder briefings, town halls, etc.
- **Leadership alignment**
  - Ensure that all leaders have a shared understanding of the vision, goals, and strategic objectives related to the acquisition of the new vessel.
  - Clearly define and communicate the roles and responsibilities of each leader involved in the change process to avoid overlap and ensure accountability.
  - Align leaders on key messages and communication strategies to ensure consistency and clarity when addressing staff and stakeholders.

Communications plan activities we can expect to see include:

- **Key messages for stakeholders**
  - Clearly articulate the purpose of acquiring the new vessel and the expected benefits.
  - Provide an overview of the key milestones and timeline for the acquisition and implementation process, keeping stakeholders informed about what to expect and when.
  - Explain any anticipated changes to operational procedures, roles, and responsibilities as a result of the new vessel and how these changes will be managed.
- **Communication channel and timeframes**
  - Determine the most effective communication channels for reaching different stakeholder groups (e.g. emails, intranet updates, newsletters, team meetings, social media).
  - Develop a detailed communication schedule outlining when and how key messages will be transmitted throughout the project lifecycle to ensure timely and consistent updates.
  - Commit to regular updates at defined intervals, such as weekly or monthly, to keep stakeholders informed about progress, key milestones, and any changes to the plan.
- **Communication opportunities**
  - Additional communication opportunities may include stakeholder meetings, interactive workshops, media engagement, and newsletters and reports.
- **Risks and mitigations**

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- Clearly communicate identified risks and corresponding mitigation strategies to all relevant stakeholders, ensuring transparency and preparedness.
- Establish clear channels for stakeholders to provide feedback or raise concerns about new or emerging risks.

Training activities/standards required to deliver effective EORC duties will be the responsibility of the vessel owner to maintain and ensure assurance against contracted performance measures.

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Appendix 9: Full list of benefits

Table 36: Full list of benefits

<table>
<tr><td colspan="2">Benefit 1: Enhances the safety of maritime users through reduction of the risk of a significant maritime incident escalation in the Cook Strait.</td><td>How do we know if we are achieving these benefits?</td></tr>
<tr><td>Weight: 50%</td><td>Benefit owner: Deputy Chief Executive, Response Security and Safety Services (RSSS)</td><td rowspan="11">The listed benefits are being achieved if, in the case of an incident, we observe:
Decrease in first-strike response time in the Cook Strait.
Decrease in time taken to tow a stricken vessel to a safe harbour across New Zealand.
in comparison to the current capacity of vessels of opportunities.</td></tr>
<tr><td>Having the EORC vessel(s) means that New Zealand enhances its capacity in emergency maritime response, therefore increases systematic readiness against major maritime incidents.</td><td>Rationale:
Strategic elements of systemic risk management for maritime incidents can be assessed through several elements, including readiness by having effective contingency planning (research, risk assessment, environmental sensitivity) and response rate by having sufficient resources to react, relief and recover.</td></tr>
<tr><td colspan="2">Benefit 2: The Cook Strait environment is protected by rapid response to prevent accidents / minimise the damage resulting from incidents.</td></tr>
<tr><td>Weight: 30%</td><td>Benefit owner: Deputy Chief Executive, Response Security and Safety Services (RSSS)</td></tr>
<tr><td>By having access to EORC vessel(s), marine vessel incidents are better managed and mitigated before incurring major damages to the environment that would incur extra costs in recovery and restoration.</td><td>Rationale:
Costs to environmental damage and recovery due to vessels from incidents would escalate the longer the vessel remains in the state of emergency.
The capacity of First- and Second-strike vessels to accelerate rescue speed and minimise escalation would hypothetically result in a decrease in environmental costs.</td></tr>
<tr><td colspan="2">Benefit 3: Decreases likelihood of indirect and direct costs as a result of vessel loss, salvage, and operating impacts.</td></tr>
<tr><td>Weight: 20%</td><td>Benefit owner: Deputy Chief Executive, Response Security and Safety Services (RSSS)</td></tr>
<tr><td>At present, salvage and repair costs for an incident are borne by the operator through private insurance. In the case of a significant incident, the Crown will</td><td>Rationale:
Costs to salvage and repair vessels from incidents, as well as the downtime costs, would escalate the longer the vessel remains in the state of emergency.</td></tr>
</table>

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bear the direct costs. On top of the direct costs, loss of income and productivity as a result of downtime negatively affects New Zealand economy. By having access to EORC vessel(s), marine vessel incidents are better managed and mitigated before incurring major complications and associated costs. This would decrease the total average cost of salvage, repair and operational impacts to the NZ maritime industry and the Crown.	• The capacity of EORC vessels to accelerate rescue speed and minimise escalation would hypothetically result in a decrease in costs.	

Benefits Management

How are we measuring the KPI?	**What are baselines and targets that we are on the right track?**
Response time: • Decrease in first-strike response time in the Cook Strait. • Decrease in time taken to tow a stricken vessel to port across New Zealand.	Baseline: • Current first-strike response time in the Cook Strait. • Current time taken to tow a stricken vessel to port across New Zealand. Target: • xx% reduction in first-strike response time in the Cook Strait. • xx% reduction in time taken to tow a stricken vessel to port across New Zealand.

Indicators

There are two types of indicators that will be used to measure the KPIs:

1. Lead Indicators identify the key <u>enablers</u> that benefits realisation is dependent upon. i.e. Lead Indicators are not benefits, they are signals that provide assurance the benefit is on track to be realised in the timeframe expected.
2. Lag indicators are measures used to signal the commencement of benefits realisation and their level of achievement.

NOTE: Any dates below are indicative only, until detailed business cases have been approved by Cabinet.

<u>Lead Indicators</u>

20%: April 2025 - Cabinet approval of DBC

40%: July 2025 - Procurement strategy and plan approved. Crown funding committed

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60%: Nov 2025 - Preferred supplier selected
80%: Jan 2026 – Vessel in NZ waters and trained crew available
100%: Feb 2026 - EORC vessel(s) in operation
Benefits Realised (Lag Indicators)
To be confirmed

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