Spinifex Offshore Wind Farm - Offshore Investigations

Application Number: **02440** Commencement Date: **05/06/2024** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Spinifex Offshore Wind Farm - Offshore Investigations

1.1.2 Project industry type *

Energy Generation and Supply (renewable)

1.1.3 Project industry sub-type

Wind Farm

1.1.4 Estimated start date *

01/11/2024

1.1.4 Estimated end date *

30/04/2029

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The proposed action under this referral is the offshore investigations that will be carried out to assess the feasibility of the proposed future Spinifex Offshore Wind Farm Project (the 'OWF Project'). The offshore investigations will gather information on the morphology, geologic makeup, as well as seafloor and oceanic conditions, and are essential for informing the basic and detailed level design for the OWF Project.

The offshore investigations will comprise:

1. Vessel-based geophysical investigations of the offshore investigation area to gain a preliminary understanding of shallow geology and constraints and hazards from manmade, natural and geological features. The results of this investigation will also inform benthic habitat description and assist with scoping of marine ecological surveys for the environmental impact assessment of the OWF Project.
2. Vessel-based geotechnical investigations of the offshore investigation area to inform foundation design and specific export cable route selection.

Preliminary geophysical investigations will occur over approximately eight weeks, with an estimated 45 days of geophysical investigation activity during that period. The initial stage will gather preliminary information at a high-level before more detailed surveys are carried out later in the design stage.

Preliminary geotechnical investigations are anticipated to proceed sometime after receiving a feasibility licence, and having in place an approved Management Plan, under the *Offshore Electricity Infrastructure Act 2021* (Cth). Once mobilised, the preliminary geotechnical investigations will occur over approximately eight weeks, with an estimated 40 days of geotechnical investigation activity during that period. The preliminary geophysical investigations would not commence before 1 November 2024.

Subsequent to the preliminary investigations, detailed geophysical and geotechnical investigations will be required to further refine the ground model. Detailed geophysical investigations will occur over approximately eight weeks, with an estimated 45 days of geotechnical investigations during that period. Detailed geotechnical investigations will occur over approximately 20 weeks, with an estimated 90 days of geotechnical investigations during that period. The full program of offshore investigations is targeted to be complete by 30 April 2029, which includes contingency.

Due to the metocean conditions within the offshore investigation area, and to avoid potential impacts to southern right whales during the calving period, geophysical and geotechnical site investigations are only proposed to be performed within the investigation season each year from 1 November to 30 April inclusive.

Geophysical investigation methodologies are summarised below and **Att A - Offshore Investigations - Significant Impact Assessment, Table 1-1, pp 5-14** provides a description of each survey method and the potential impacts assessed.

- Single Beam Echo Sounders (SBES): Determination of water depths
- Multi-beam echo sounder (MBES): Detailed bathymetry measurements
- Side-scan sonar (SSS): Detects hazards (existing pipelines, lost shipping containers, boulders, debris, unmarked wrecks, reefs and craters)
- Sub-bottom profiler: Measures layers and thickness of seabed sediments (30m+)
- Mini-airgun: Measures layers and thickness of seabed sediments (up to 100m)
- Ultra-short baseline (USBL): allows underwater acoustic positioning to support geophysical and geotechnical activities.
- Magnetometer and Magnetic Gradiometer: Detects metals on or below seabed (missed by sonar).
- All methods described above are deployed from a vessel.

Geotechnical investigations methodologies may include the following:

- Seabed grab sampling (SGS): Unconsolidated sediments for analysis
- Seabed coring (vibrocores and/or piston cores): Sediment samples for analysis of formations below the seabed
- Piezo Cone Penetrometer Test (PCPT and/or TCPT): In-situ testing of soil strength and stratigraphy
- Rotary boreholes (BHs): Sediment and/or rock coring to obtain geological samples to the expected depth of the wind turbine generator (WTG) foundations
- All methods described above are deployed from a vessel. For vessel-based geotechnical borehole drilling operations, the vessel will be expected to remain stationary at a prescribed location for up to a few days during the geotechnical drilling activities. As such, the vessel will be capable of maintaining station using Dynamic Positioning (DP) or by anchoring.

Assessment of potential direct and indirect impacts is summarised here and detailed in **Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48.**

Briefly, the direct impacts from the geophysical investigations include underwater noise (from the survey methods) and fauna entanglement risks for whales. Key mitigations include conducting surveys between 1 November to the 30 April inclusive, so that peak presence of southern right whales will be avoided (**Att A - Offshore Investigations - Significant Impact Assessment, Figure 3-1, p 33**), thus reducing the potential for direct impacts. Furthermore, dedicated marine mammal observers, pre-start visual observations, shutdown zones, start-up delay procedures, and implementing specific night-time controls are proposed (**Att A - Offshore Investigations - Significant Impact Assessment, Figure 4-1, pp. 51-52).** The direct impacts from the geotechnical investigations include drilling noise, vessel noise (including use of dynamic positioning systems),

localised disturbance of the seabed and vibration impacts that could affect subtidal nearshore and offshore rocky reefs, subtidal soft sediments, and the water column (**Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48).** Where practicable, drilling locations will be located to minimise the potential impact on significant habitats.

The specific potential direct impacts and considerations for key listed species of southern right whales, pygmy blue whales and white sharks are detailed in **Att A - Offshore Investigations - Significant Impact Assessment, Section 3-2, pp 33-35.**

Indirect impacts from both geotechnical and geophysical surveys may include light pollution effects on birds from vessels, which will be mitigated by control measures such as directing external lighting onto the deck, reducing light spill to the environment where practicable for safe operations (see **Att A - Offshore Investigations - Significant Impact Assessment, Figure 3-2, p 39**). Furthermore, indirect impacts from benthic habitat disturbance (e.g., drilling, coring, grab sampling) will be limited to small and defined areas of the seabed, and the introduction and establishment of IMS via marine growth or ballast water discharge affecting the local environment is highly unlikely as the investigation vessels will adhere to government biosecurity guidelines and management requirements.

Due to the current design phase of the of the OWF Project, any works associated with the installation of infrastructure and operation of the OWF Project are excluded from this action. As noted below, Spinifex Offshore Wind Farm Pty Ltd (Spinifex) will make a separate ‘whole of project’ referral for the OWF Project and associated infrastructure.

The proposed offshore investigation area is approximately 800 km2. This captures the area we propose to investigate for the wind turbine generators and offshore substation(s) and an export cable corridor. The potential disturbance footprint will be the same as the development area of 800 km2 however actual disturbance will be smaller. For example, during geotechnical investigations a limited number of individual locations may be chosen from the overall development footprint.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

Yes

1.2.5 Provide information about the staged development (or relevant larger project).

The proposed action is related to the proposed development of the OWF Project, in that the results of the action (being the geophysical and geotechnical investigations) will inform the design and development of the OWF Project.

The OWF Project will likely comprise a fixed foundation offshore wind farm with a total capacity of 1GW+, at least one offshore substation, and submarine export cables between the offshore wind farm and the proposed onshore connection point near Portland.

The OWF Project (i.e., the construction and operation of the offshore wind farm and associated infrastructure) will be separately referred to the Australian and Victorian governments and is therefore not the subject of this referral in relation to offshore investigations.

It is anticipated that the OWF Project will be referred under the EPBC Act in Q1 2025.

The data collected during the offshore investigations will inform the basic and detailed design of the OWF Project.

A referral (2022/09359) for part of the area was submitted in late 2022 for early marine investigations that included geophysical and geotechnical investigations. Investigations under the previous referral (2022/09359) will not proceed if this current referral is successful.

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Relevant Commonwealth or state legislation, planning frameworks or policy documents are summarised below.

Australian Government

Offshore Electricity Infrastructure Act 2021

The *Offshore Electricity Infrastructure Act 2021* (OEI Act) provides a licensing scheme to enable the feasibility assessment, construction, operation and decommissioning of offshore renewable energy projects in Commonwealth waters.

Environment Protection and Biodiversity Conservation Act 1999

Pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), it is an offence to take an action that has or will have, or is likely to have, a significant impact on any Matters of National Environmental Significance (MNES), unless an approval has been granted under Part 9 or the Minister has determined that the action can proceed without approval.

Underwater Cultural Heritage Act 2018

The purpose of the *Underwater Cultural Heritage Act 2018* is to protect Australia's shipwrecks, sunken aircraft, and other types of underwater cultural heritage, including Australia's Aboriginal and Torres Strait Islander Underwater Cultural Heritage in Commonwealth waters.

Native Title Act 1993

The grant of any rights in areas where native title has been determined to exist will require compliance with the *Native Title Act 1993* (Cth) (NTA). This is unlikely to be relevant to the offshore investigations described in this referral.

Victorian Government

Offshore Wind Policy Directions Paper (March 2022)

The Directions Paper confirms that Victoria has a world class offshore wind resource. At least 13GW from OWF including the waters off Portland is identified. The Victorian Government is committed to developing a pipeline of offshore wind projects in the coming years that includes Portland and Gippsland.

Victoria's Renewable Energy Roadmap (2015)

As the centrepiece of Victoria's energy transition, the Roadmap has the objective of accelerating development of renewable energy generation in Victoria to reduce emissions, create jobs, and put downward pressure on energy prices and a priority area of transforming the generation stock in the wholesale electricity market towards renewable energy.

Victorian Renewable Energy Target 2017

The Victorian Government has a Renewable Energy Target of 50 per cent by 2030 and in the 2019-20 financial year approximately 24.3 per cent of Victoria's electricity generation was provided by renewable energy sources. To ensure that the 2030 target is achieved, another 5,400 MW of generation needs to be added before 2030. The increased target of 50% by 2030 was legislated in the *Renewable Energy (Jobs and Investment) Act 2017.*

Victoria's Renewable Energy Action Plan (2018)

The Renewable Energy Action Plan outlines the actions that the State Government is taking to encourage investment in our energy sector and to ensure Victorians continue to benefit from a renewable, affordable, and reliable energy system into the future. A priority under Victoria's Renewable Energy Action Plan is strengthening our affordable, reliable, and resilient energy system.

State Planning Policy

The OWF Project will provide a positive, locally significant contribution to the achievement of State and local planning policies, particularly those related to Victoria's energy transition. The OWF Project would give effect to the following State planning policies contained in the Glenelg Planning Scheme:

Clause 19.01-1S Energy Supply

Marine and Coastal Act 2018

The Marine and Coastal Act 2018 enables protection of coastline in relation to climate change, population growth and ageing coastal structures by ensuring collaboration between involved partners.

Aboriginal Heritage Act 2006 (Vic)

This Act protects Aboriginal cultural heritage within Victoria's coastal waters.

Spinifex and the GMTOAC have commenced discussions on the OWF Project and the offshore investigations. Spinifex is aware that there may be locations within the offshore investigation area that are culturally sensitive. GMTOAC is the prescribed body corporate under the NTA for the Gunditjmara determined native title holders and the RAP under the AHA for the part of the offshore investigation area that falls within Victoria's territorial boundaries.

Heritage Act 2017 (Vic) and Heritage (Underwater Cultural Heritage Regulations) 2017

These establish protected zones around certain shipwrecks in Victoria's coastal waters. While there have been none identified in the offshore investigation area based on desktop assessment, it is possible that some exist within the offshore investigation area. Procedures to manage find of this nature will form part of the offshore investigations.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Public Consultation

Spinifex is committed to working closely with the local communities in Portland, Warrnambool and Port Fairy and key stakeholders throughout the development and delivery of the OWF Project, including the offshore investigations described in this referral.

Spinifex has established relationships with a range of key stakeholders and communities due to its active engagement with communities in the south west region of Victoria since project launch in 2021. This includes key stakeholders that the project has begun consulting with on the offshore Investigations and its associated EPBC referral. Spinifex's consultation to date and approach for future consultation with these stakeholders and marine users is outlined below.

Government

The project team has briefed key departments and Ministers of the Federal and Victorian governments, to inform them about this EPBC referral and the offshore investigations.

Those briefed include:

- Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- Office of the Australian Minister for Climate Change and Energy (The Hon Chris Bowen)
- Department of Environment, Energy, and Climate Action (DEECA) – Offshore Wind Energy Victoria (OWEV)
- Office of the Minister for Energy & Resources of Victoria (The Hon Lily D'Ambrosio)
- Victorian State Member for Western Victoria (Jacinta Ermacora MP)

Spinifex will continue to brief government and local members regarding the offshore investigations as they progress.

Local Government

Spinifex has informed Glenelg Shire Council, Warrnambool City Council and Moyne Shire Council about the offshore investigations. Spinifex recently provided an in-person briefing with Warrnambool City Council and has an upcoming workshop with Moyne Shire Council's executives and councillors where a more detailed briefing on the investigations will also be provided. Spinifex will continue to regularly update local government including on the offshore surveys and will re-brief local government prior to a public notification of the offshore surveys.

Traditional Owners

Spinifex acknowledges and respects the cultural sovereignty of the Eastern Maar and Gunditjmara Traditional Owners and their primacy as traditional custodians who speak for Country and have ongoing cultural obligations to protect and nurture Country, both on land and across Sea Country, Nyamat Mirring.

Spinifex contacted both Eastern Maar Aboriginal Corporation (EMAC) and GMTOAC around the launch of the OWF Project in December 2021 and met with both groups in early / mid 2022. Since then, the OWF Project has maintained a steady stream of communications with each party as part of relationship-building with the aim of agreeing a formal engagement approach and partnership framework.

Spinifex most recently contacted both groups to inform them about the offshore investigations and have offered to provide briefings to both groups.

A summary of communications regarding the offshore investigations with Traditional Owners for each group is provided below.

GMTOAC

Spinifex has interacted regularly with GMTOAC to share information related to early project development activities and provide opportunities for feedback or consultation. Most recently the project contacted GMTOAC providing information on the offshore investigations and the EPBC referral and offered a briefing.

EMAC

The project team has interacted regularly with EMAC to share information related to early project development activities and provide opportunities for feedback or consultation.

The project has previously discussed marine investigations with EMAC representatives at a meeting in November 2023.

Most recently the project contacted EMAC providing information on the offshore investigations and the EPBC referral and offered a briefing. The project will continue to keep EMAC informed on the offshore investigations as the referral progresses and more clarification can be provided around survey timing.

Fishing Licence Holders

The commercial fishing community is a key stakeholder group that Spinifex has had early engagement with since project launch. Spinifex completed a commercial fishery study undertaken by Atlantis Fisheries Consulting Advisory Group in 2024 to understand the key commercial fishing activities and effort occurring in the Southern Ocean Region. The study helped Spinifex identify the fishing licence holders with the largest fishing effort in the offshore investigation area and the industry bodies to engage with. The key types of fisheries and Spinifex's engagement with them is outlined below.

Victorian Rock Lobster

Victorian Rock Lobster fishing licence holders are represented by Seafood Industry Victoria (SIV). Spinifex has met with SIV previously and most recently contacted SIV about the offshore investigations and offered them a briefing on the investigations to understand any engagement requires SIV has on behalf of its licence holders. Spinifex and SIV are now in the process of establishing an engagement agreement to guide the process for future engagement with SIV and its licence holders on offshore development matters including the offshore investigations.

Southern Squid Jig Fishery (SSJF)

The SSJF licence holders are not represented by an industry body. The Atlantis Commercial Fisheries Study undertaken by Spinifex included a stakeholder summary of key licence holders to contact and included contact details for a key operator in the area. Spinifex has offered a project briefing to this licence holder and informed them about the offshore investigations. Spinifex will continue to update them and seek their support in identifying any other SSJF licence holders in the area.

Gillnet Hook and Trap

Gillnet and Hook and Trap licence holders are represented by the Southern Shark Industry Alliance (SSIA). Spinifex has spoken with the CEO of SSIA and provided them with information on the project and the offshore investigations. They believe there is minimal overlap between the Spinifex area and areas where their Gillnet and Hook and Trap licence holders operate. Spinifex has agreed to keep SSIA updated on the offshore investigations. The SSIA CEO is also the CEO of South East Trawling Fishing Association (SETFIA) and they confirmed that SETFIA licence holders would not be impacted by the investigations or the Spinifex project, as the trawling area is not in the Southern Ocean Region. They have offered to provide SETFIA's SMS notification service for notifying licence holders about the offshore investigations. Spinifex will work with SETFIA to use this service when there is confirmation on timing of the investigations.

Other fishing licence holders

Other licence holders that may be operating in the area will be contacted through SIV. Spinifex will also contact peak bodies on behalf of licence holders who are unlikely to be operating in the area such as the Australian Southern Bluefin Tuna Industry Association (ASBTIA) to provide information on the offshore investigations.

Oil and Gas licence holders

Spinifex has identified oil and gas licence holders that hold exploration or operational licence holders in or around the Spinifex project area. The key oil and gas licence holder that has a licence overlapping with Spinifex is ConocoPhillips. Spinifex is on the process of establishing an MOU with ConocoPhillips to identify opportunities for data sharing and avoid overlap of works. Spinifex has informed ConocoPhillips of the offshore investigations and will continue to keep them updated.

Broader community consultation

Specific consultation activities are planned before the lead up and prior to the commencement of the offshore investigations with key environmental stakeholder groups, the general community, and recreational fishers. This will include:

- Briefings with environmental groups
- Briefings with recreational fishing peak bodies and local groups
- Project update informing the general community about Spinifex's plans for offshore investigations and inviting feedback. This will occur when there is clarity around the investigation timing.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to

contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint. Alternatively, email us at privacy@awe.gov.au.

☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	97117883173
Organisation name	RPS AAP CONSULTING PTY LTD
Organisation address	Level 16, 222 Exhibition Street Melbourne VIC 3000, Australia

Referring party details

Name	Carolyn Wheeler
Job title	Senior Marine Scientist

Phone	0394 179 700
Email	carolyn.wheeler@rpsgroup.com.au
Address	Level 16, 222 Exhibition Street Melbourne VIC 3000, Australia

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	655878989
Organisation name	SPINIFEX OFFSHORE WIND FARM PTY LTD
Organisation address	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000

Person proposing to take the action details

Name	Linden Blair
Job title	Project Development Manager
Phone	0894863069
Email	linden.blair@alintaenergy.com.au
Address	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

Yes

Joint Venture Name	Business Address	ABN/ACN	Responsible Person	Email
Spinifex Offshore Wind Farm Pty Ltd as trustee for Spinifex OWF Trust	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000	655878989	Linden Blair	linden.blair@alintaenergy.com.au

1.3.2.15 Are you proposing the action as part of a Trust? *

Yes

1.3.2.16 Describe the nature of the trust arrangement in relation to the proposed action. *

The Deed of Unit Trust between, amongst others, Spinifex Offshore Wind Farm Pty Ltd, Spinifex Offshore Wind Farm Pty Ltd as trustee of the Spinifex OWF Trust (the Trust), sets out the terms upon which the Trust was established, the Trustee's powers, the ongoing rights and responsibilities of the Trustee and the Unitholder of the Trust (see **CONFIDENTIAL Att B - Spinifex OWF Unit Trust Deed**). This document is not publicly available as it contains confidential information, including information that is commercial in confidence. Furthermore, see **CONFIDENTIAL Att C - Relationship Diagram – Spinifex** which shows the corporate relationship between Alinta Energy and Spinifex Offshore Wind Farm. This document is also not publicly available as it contains confidential information, including information that is commercial in confidence.

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

There are no past or present proceedings against Spinifex Offshore Wind Pty Ltd.

Spinifex has previously submitted a referral (2022/09359) for similar actions (which were determined as not a controlled action if taken in a particular matter) and has not proceeded with the actions.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

The Spinifex Offshore Wind Farm Environment and Community Policy sets out the overarching environment and community policy applicable to Spinifex (**Att D- Spinifex – Environment and Community Policy**). It is intended to supplement, and be consistent with, the environment and community plans applicable over time under the development, construction, or operation and maintenance contracts at the Spinifex Offshore Wind Farm site.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	655878989
Organisation name	SPINIFEX OFFSHORE WIND FARM PTY LTD
Organisation address	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000

Proposed designated proponent details

Name	Linden Blair
Job title	Project Development Manager
Phone	0894863069
Email	linden.blair@alintaenergy.com.au
Address	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	97117883173

Organisation name	RPS AAP CONSULTING PTY LTD
Organisation address	Level 16, 222 Exhibition Street Melbourne VIC 3000, Australia
Representative's name	Carolyn Wheeler
Representative's job title	Senior Marine Scientist
Phone	0394 179 700
Email	carolyn.wheeler@rpsgroup.com.au
Address	Level 16, 222 Exhibition Street Melbourne VIC 3000, Australia

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	655878989
Organisation name	SPINIFEX OFFSHORE WIND FARM PTY LTD
Organisation address	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000
Representative's name	Linden Blair
Representative's job title	Project Development Manager
Phone	0894863069
Email	linden.blair@alintaenergy.com.au
Address	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

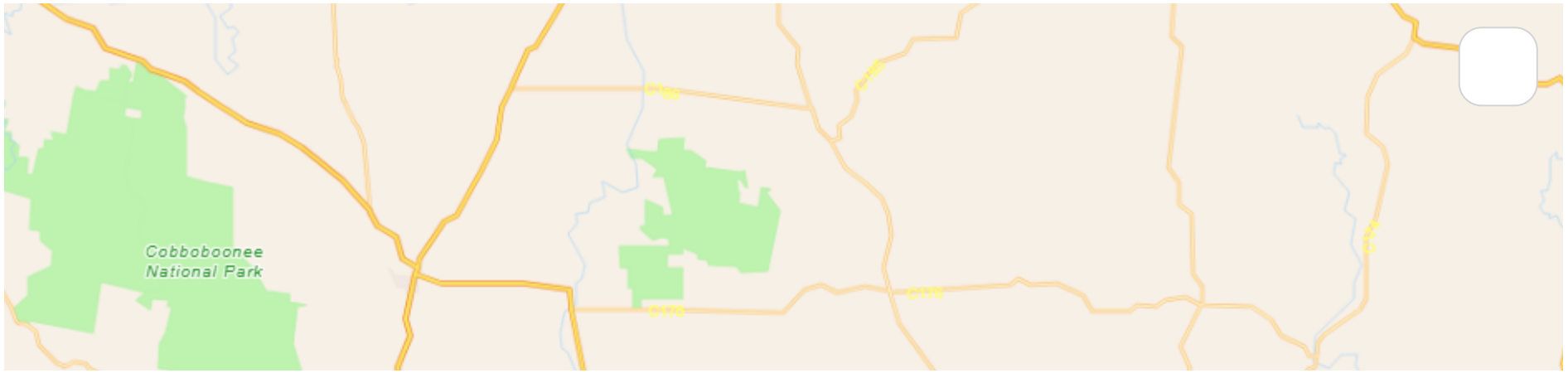
1.4 Payment details: Payment allocation

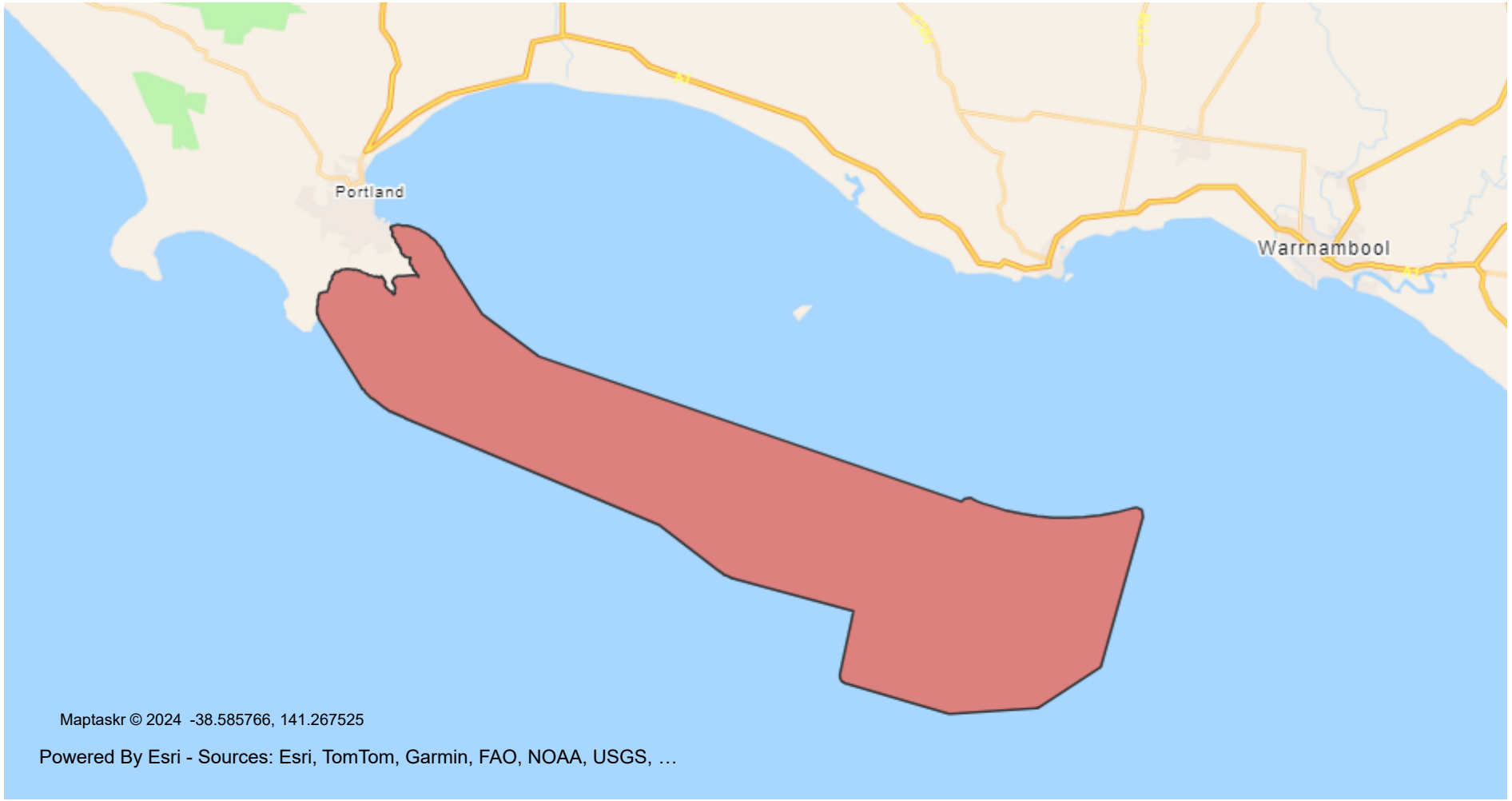
1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint





Project Area: 79596.79 Ha Disturbance Footprint: 79596.79 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

The area extends from Point Danger, about 60 km south-east, to about 19 km offshore of Port Fairy.

2.2.2 Where is the primary jurisdiction of the proposed action? *

Commonwealth Marine

2.2.3 Is there a secondary jurisdiction for this proposed action? *

Yes

2.2.4 Where is the secondary jurisdiction of the proposed action? *

Victoria

2.2.5 What is the tenure of the action area relevant to the project area? *

Approximately 696 km2 of the offshore investigation area is located in Commonwealth waters. The remainder of the 800 km2 area, approximately 104km2, is located in Victorian waters. For geophysical surveys no tenure is required. For geotechnical surveys within State waters, Spinifex will apply for any necessary consents under the *Marine and Coastal Act 2018* (Vic) for certain activities in Victorian state waters. A licence(s) under the *Offshore Electricity Infrastructure Act 2021* (Cth) is required for certain activities (incl. geotechnical activities) within the declared area. At the time of making this referral Spinifex was preparing a feasibility licence application.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The offshore investigation site is located in the greater Otway bioregion. The greater Otway bioregion features a narrow continental shelf with steep gradients and numerous submarine canyons, with the shelf break varying from 10 to 80 km offshore. The seabed composition ranges from carbonate sediments, reefs, and predominantly fine to medium-grained sand, with reefs common near Lawrence Rocks, Julia Reef, and Deen Maar. The shoreline includes both modified stretches, such as those around Portland Harbour, and largely unmodified sandy beaches and cliffs, with the potential presence of giant kelp marine forests and various threatened species.

Biologically, the Bonney Upwelling is located within the offshore investigation area, where nutrient-rich water to the surface, supporting high primary productivity and a diverse marine ecosystem, including phytoplankton, fish, and marine mammals, particularly blue whales. There are 18 Biologically Important Areas (BIA) that overlap the offshore investigation area for two species of whales, white sharks, and ten species of seabirds.

Overall, the physical and biological environment relevant to the offshore investigation area is largely unaffected by industrial development and this area likely provides high quality benthic habitat as well serving as an important area for several species of whales. The offshore investigation area does not overlap with any protected areas in the region.

There is notable human-use in the area, where to the west of the offshore investigation, Portland is serviced by a deepwater commercial port and is also the location of the Portland Aluminium Smelter. Portland is also the home of a diverse fleet of commercial fishing vessels. There are three active commonwealth fisheries and five active Victorian fisheries within the offshore investigation site. Due to its proximity to the edge of the continental shelf, the location is also popular for recreational anglers. The closest active petroleum related activities occur in the Otway basin, near Peterborough which is approximately 30 km to the east of the marine investigation area.

3.1.2 Describe any existing or proposed uses for the project area.

Commercial Fishing

Commonwealth fisheries are managed by the Australian Fisheries Management Authority (AFMA) under the *Fisheries Management Act 1991*. AFMA jurisdiction covers the area of ocean from 3 nm from the coast out to the 200 nm limit (the Australian Fishing Zone (AFZ)). Commonwealth commercial fisheries with jurisdictions to actively fish within or in the vicinity of the offshore investigation area are the:

- Southern and Eastern Scalefish and Shark (SESS) Fishery
- Southern Squid Jig Fishery
- Southern Bluefin Tuna Fishery

Victorian fisheries with jurisdiction overlapping the offshore investigation area are the:

- Rock Lobster Fishery
- Wrasse (Ocean) Fishery
- Ocean (General) Fishery
- Inshore Trawl Fishery
- Giant Crab Fishery

Recreational fishing

Recreational fishing is a popular pastime in the region. Recreational fishing includes individual fishing, charter fishing vessels, organised fishing competitions and all forms of recreational taking of fish in particular tuna, kingfish and blue eye trevalla (VFA 2022). At its closest point, the continental shelf is only 20 kilometres from shore, boat ramps available at Portland Harbour, Port Fairy and Warrnambool. Fishing depths of 200m to 500m are extremely productive, especially early in the season. Come late May, June and July, schools of bluefin are encountered much closer in, generally from the 40m line and deeper. The offshore investigation area is well outside the areas targeted by recreational fishers such Cape Bridgewater, Cape Nelson and the back of Lawrence Rock.

Tourism

Marine and coastal tourism is an important component of the visitor economy in the Portland, Port Fairy and Warrnambool regions ranging from offshore charter fishing, charter boat hire, nature and whale watching and scuba diving tours. It is unknown if there are commercial tours operating within the offshore investigation area, however if they are, they are likely to be transiting through the area rather than stationary.

Native title rights

The native title determination in favour of the Gunditjmara People (VCD2007/001) recognised various non-exclusive native title rights over coastal areas to 100 metres seaward of the low water mark. Part of the determination area will intersect with part of the offshore investigation area. The native title rights recognised include the right to have access to or enter and remain on the land and waters, the right to use and enjoy the land and waters, and the right to take the resources of the land and waters. These rights in practice are substantially similar to the rights of members of the general public. The Gunditjmara People may exercise these rights at any time.

Shipping

The Port of Portland is Victoria's only naturally deep-water port and one of Australia's busiest regional commercial ports with approximately 300 ships docking per annum.

The Port of Portland is operated by Glenelg Shire, and is currently home to eight commercial fin-fishing and four Southern Rock Lobster fishing vessels. There is also itinerant berthing available for visiting commercial vessels such as trawlers, tugs and tender vessels and other large vessels requiring refuelling and the restocking of general stores/supplies.

Oil and gas operators

Spinifex has identified a number of existing oil and gas exploration and production licence holders near or within the Southern Ocean declared area including:

- Bridgeport Energy (State Waters)
- ConocoPhillips
- Cooper Energy
- Beach Energy

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The offshore investigation area is located within the South-East Commonwealth Marine Region (SEMR), which extends from the south coast of New South Wales to Kangaroo Island in South Australia and around Tasmania **(Att E- South-East Commonwealth Marine Reserves Network Management Plan 2013-2023, Section 2.1, p 12**). The offshore investigation area is located in the Western Bass Strait Transition Provincial Bioregion using the Interim Marine and Coastal Regionalisation for Australia (IMCRA) **classification (Att F-Map 1 IMCRA 4.0:Provincial Bioregions).** At the mesoscale level, the area is located in the Otway bioregion, which is located on the continental shelf off southern Australia and the substrate is predominantly sand.

The Otway bioregion is characterised by a narrow continental shelf with very steep to moderate offshore gradients. The shelf break at 200 m depth, or edge of the continental shelf, is between 10 and 50 km offshore. The continental slope beyond the shelf break slopes steeply to around 1000 m depth at around 50-70 km offshore and is dissected by numerous submarine canyons.

The offshore investigation area has moderate offshore gradients with the shelf break around 50 km offshore. By way of contrast, the shelf break is just 30 km offshore to the west around Port MacDonnell. To the east toward the entrance to Bass Strait at Cape Otway, the shelf widens, and the shelf break is around 70-80 km offshore.

The seabed offshore from Portland comprises carbonate sediments (biologically derived), with areas of reef formed from sedimentary rock and volcanic rock. Much of the offshore investigation area is likely to be unconsolidated sandy seabed. Sediment maps indicate that sediments contain little gravel or mud and are predominantly fine to medium grained sand (**Att G- Heap *et al*. 2005, Section 2.1.6, pp 24-26**). Hydrographic charts of the area and data from surrounding areas indicate reef outcrops and large areas of hard seabed may be present throughout the offshore investigation area. Reefs are common offshore from Lawrence Rocks, Julia Reef (Portland Bay) and Deen Maar (Lady Julia Percy Island). The spectacular coastal cliffs at Cape Bridgewater, Cape Nelson and Point Danger are cut in sedimentary and volcanic rocks, with similarly spectacular sand dunes to the west in Discovery Bay.

The shoreline within Portland Bay includes large stretches that have been modified by the installation of breakwaters (Portland harbour) and seawalls and groynes (Portland to Narrawong). From Narrawong (east of the Surrey River) to Port Fairy the coastline is largely unmodified and is predominantly a sandy surf beach backed by low dunes broken by two rivers/estuaries (Surrey River and Fitzroy River). The shoreline around Port Fairy includes calcarenite cliffs (the Crags), basalt outcrops and sandy beaches. The cliffed shoreline around Deen Maar is predominantly basalt, while the cliffs around Portland include basalt and limestone.

Giant kelp marine forests of south east Australia has been identified as a listed threatened ecological community that ‘may occur’. A number of EPBC threatened and listed migratory species have also been identified as potentially occurring within the offshore investigation area. This is discussed in Section 3.2 of this referral.

There is one Key Ecological Feature (KEF) that overlaps the offshore investigation area, the Bonney Upwelling. The Bonney Upwelling is an area of high productivity and aggregations of marine life. It is a predictable, seasonal upwelling which brings cold, nutrient rich water to the sea surface and typically occurs in the summer and autumn along the narrow continental shelf between Robe, SA, and Portland, Victoria. The higher primary productivity that attracts baleen whales and other species (including EPBC-listed species) that feed on the plankton swarms (krill) (**Att H- DoE Conservation Management Plan Blue Whales, Section 4.1, p 14).**

The primary ecological importance of the Bonney Upwelling is as a feeding area for the blue whale. The Bonney Coast Upwelling is one of only two identified seasonal feeding areas for blue whales in Australian coastal waters and is one of 12 known blue whale feeding aggregation areas globally. Sightings of the sei whale in the upwelling indicate this is potentially an important feeding ground for the species (**Att I- Gill *et al.* 2015, Table 2, p 675**) and also for the fin whale.

There are 18 Biologically Important Areas (BIA) that overlap the offshore investigation area. These include:

- Southern Right Whale – Aggregation Area BIA and Known Core Range BIA
- Pygmy Blue Whale – Foraging (annual high use) BIA and Distribution BIA
- Great White Shark – Foraging, Known Distribution and Distribution (low density) BIAs
- Wedge-tailed Shearwater - Foraging BIA
- Wandering Albatross - Foraging BIA
- Antipodean Albatross - Foraging BIA
- Australasian Gannet - Aggregation Area BIA and Foraging BIA

- Common Diving-petrel - Foraging BIA
- Bullers Albatross - Foraging BIA
- Shy Albatross – Likely Foraging BIA
- Indian Yellow-nosed Albatross - Foraging BIA
- Black-browed Albatross - Foraging BIA
- Campbell Albatross - Foraging BIA.

There are no marine protected areas that overlap the survey area.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

Investigation activities will be conducted in water depths ranging from approximately 5 metres to 75 metres within the offshore investigation area.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

The South East Marine Region (SEMR) has a high diversity of species and also a large number of endemic species. The fish fauna in the region includes around 600 species, of which 85% are thought to be endemic. Additionally, approximately 95% of molluscs, 90% of echinoderms, and 62% of macroalgae (seaweed) species are endemic to these waters (**Att E- South-East Commonwealth Marine Reserves Network Management Plan 2013-2023, Section 2.2.3, p 14**).

Benthic, or seabed habitats provide a place to live for a wide range of seaweeds (macroalgae), sessile invertebrates, mobile invertebrates and fish. The species found in the area reflect the seabed habitats, cold temperate climate and oceanography. Benthic species richness is high and many benthic species are endemic (not found anywhere else in the world) – a product of the stable climate, varied seabed habitats and the area's isolation from other regions by the prevailing ocean currents (**Att J- SEMR profile, Section 2.4, pp 11-12**). The region is one of the few places in Victoria where giant kelp (*Macrocystis angustifolia*) is abundant and it may in places form forests that qualify as Matters of National Environmental Significance. Reefs and other hard substrates on the continental shelf are a key ecological feature of the SEMR as they provide attachment sites for macroalgae and sessile invertebrates which in turn provide habitat for mobile invertebrates and fish (**Att J- SEMR profile, Section 3.1, p 17-20**). They therefore have high biodiversity value.

Shallower areas (less than 30 m) have sufficient light availability for macroalgae and seagrasses to dominate where suitable seabed is available. The seagrass (eelgrass) *Zostera tasmanica* is likely to occur on sandy seabed between the back of the surf zone and up to 30 m depth. The seagrass (sea-nymph) *Amphibolis antarctica* may occur on rubble seabed and low-profile reef in areas less than around 10 m and is common in Portland Bay.

Rocky reefs and other hard seabed conditions provide habitat for seaweeds (macroalgae) and sessile and mobile invertebrates. Brown seaweeds tend to dominate shallower, brighter reefs, with red seaweeds becoming more prominent with increasing depth and decreased light availability. Green seaweeds may be found throughout this range, though are more common in shallower, brighter water. The bull kelp (*Durvillaea potatorum*) is a large brown seaweed that dominates wave-swept low-intertidal and shallow subtidal reef. Crayweed (*Phyllospora comosa*) is a related large brown seaweed that forms dense canopies in areas up to 15 m depth. The giant kelp (Macrocystis angustifolia) is common in the area and common kelp (*Ecklonia radiata*) often dominates in waters over 15 m depth (that are not dominated by crayweed). The canopies formed by large seaweeds shelter a range of smaller seaweeds, sessile and mobile invertebrates. The shallow reefs in the area are highly productive and support valuable rock lobster (*Jasus edwardsii*) and black and greenlip abalone (*Haliotis* spp.) fisheries. The productive shallow reefs provide habitat and food for a wide range of reef fish, many of which are also endemic, including wrasse, morwong, sweep and perch.

As depth increases and light levels decrease, large brown seaweeds are replaced by smaller red and brown seaweeds and the abundance of sessile invertebrates increases.

Hard seabed in the offshore investigation area, between 30 m and 75 m depth, will be dominated by sessile invertebrates, with some, mostly red, seaweed species. Sessile invertebrates on rocky reefs in the region include a wide diversity of sponges, soft corals, hydroids, sea-whips, bryozoans and sea-squirts. Mobile benthic invertebrates are similarly species rich and include many molluscs, echinoderms and crustaceans (including rock lobster).

Unconsolidated sand and shell seabed in the offshore investigation area will support a wide range of invertebrate infauna (animals that live within the sediments). Infauna are likely to include a wide range of polychaete worms, crustaceans (shrimp), molluscs (bivalves and gastropods) and echinoderms (holothurians). If there are dense accumulations of whole shell, rhodoliths or cobble, these will provide habitat for a range of sessile invertebrates including sponges, corals, bryozoans, hydroids and sea-squirts, as well as mobile invertebrates including crustaceans and molluscs.

Marine mammals and turtles

Database searches show that 32 marine mammal and turtle species are commonly seen in the offshore investigation area, are seasonally present or may occur from time to time. Common species include the Australian fur seal (AUFS) and long-nosed (New Zealand) fur seals (NZFS) (both have colonies nearby), and dolphins. Notable species that are seasonally present include the threatened southern right whale, pygmy right whale, pygmy blue whale and humpback whale. A wide range of other dolphin and whale species and the Australian sea lion may occur in the area from time to time. Leathery turtles are sighted in western Victorian waters from time to time.

The offshore investigation area overlaps an aggregation area for the southern right whale and is near one of 12 areas worldwide where blue whales are known to feed in relatively high numbers (the Bonney coast upwelling). There are seal breeding colonies at Cape Bridgewater and Deen Maar and haul-outs at Lawrence Rocks and Cape Nelson.

Eight marine mammal species that may occur in the area are listed as endangered or vulnerable under the EPBC Act and/or *Flora and Fauna Guarantee Act 1988* (FFG Act), including the southern right whale (endangered) and pygmy blue whale (endangered). All cetaceans in Australian waters are protected under the EPBC Act.

Birds

Database searches show that 35 seabird species are common, are seasonally present or may occur from time to time in the offshore investigation area. Common species include albatrosses, petrels, shearwaters, cormorants, terns, prions and shearwaters. A further 55 species of shorebirds and terrestrial birds (some of which migrate between Victoria and Tasmania) are known from the area.

There are two breeding colonies of Australasian gannets close to the offshore investigation area; a mainland colony of 300 breeding pairs at Point Danger (less than 1 km from the Portland aluminium smelter), and more than 6000 breeding pairs on Lawrence Rocks, midway between the aluminium smelter and the offshore investigation area. The offshore investigation area is also in close proximity to breeding colonies of little penguins, fairy prions, common diving petrels and short-tailed shearwaters breeding on Deen Maar.

Of the bird species that may occur in the area, 45 are listed as endangered or vulnerable and a further fourteen listed as critically endangered under the EPBC Act and/or FFG Act, including the four albatross species, two tern species and a number of migratory coastal or wetland species

Fishes and sharks

Southern temperate Australian waters have around 600 fish species (including sharks and rays) with around 85 per cent thought to be endemic (**Att J- SEMR profile, Section 2.4, p 12**). The Portland region has high fish biodiversity compared to other regions in South Australia, Victoria and Tasmania. The area is home to the white shark, with large sharks likely to prey on the large numbers of seals and whales in the area. The white

shark is listed as vulnerable under the EPBC Act and endangered under the FFG Act. The productive waters of the Portland region mean that large pelagic fish commonly occur there, including the southern blue fin tuna, listed under the FFG Act as conservation dependent. There are a further two sharks listed as migratory under the EPBC Act, the shortfin mako and porbeagle sharks. All Syngnathids (pipefish, seahorses and seadragons) are listed marine species under the EPBC Act and Protected Aquatic Biota under the Victorian Fisheries Management Act.

Cephalopods such as squid, cuttlefish and octopus (not fish, but classified as such for fisheries management purposes) are important components of the marine food web in the southeast marine region, providing prey for a wide range of bird, fish, sharks and marine mammals, and themselves preying on smaller fish and invertebrates. Squid are targeted by the southern squid jig fishery (Commonwealth).

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

There is no vegetation within the investigation area given the area is entirely within the marine environment.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

The Protected Matters Search Tool (PMST) does not identify any Commonwealth Heritage Listed Places within or overlapping the survey area.

Portland is the mid-point of the Victorian ‘Shipwreck Trail’, a stretch of coastline with a high density of shipwrecks owing to its long period of human settlement, rugged coastline and treacherous weather. There are 9 known shipwrecks around Cape Nelson and Portland, and a further 16 within Portland Bay (Heritage Victoria). Most were wrecked in the mid to late 1800s. Most were driven ashore during south easterly gales and were broken up, salvaged, or looted. There is a recent ‘wreck’ of a fishing trawler, the Emily S, that was scuttled as a recreational dive attraction east of Lawrence Rocks by a local dive club in the 1990s. The location of many shipwrecks in Victorian waters remain unknown, therefore it is likely that other wrecks are present in the area. Most are likely to be close to shore, where ships typically founder in bad weather.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

Deen Maar located north of the survey area is of profound spiritual significance to Gunditjmara and Eastern Maar Traditional Owners. The Yambuk Indigenous Protected Area is directly inshore from Deen Maar. Neither Deen Maar nor the Yambuk Indigenous Protected Area are within the offshore investigation area.

Spinifex and GMTOAC have commenced discussing the OWF Project and although it is early in this process, the project is aware that there may be locations within the offshore investigation area that could be culturally sensitive. GMTOAC is the prescribed body corporate under the NTA for the Gunditjmara determined native title holders and the RAP under the AHA for the part of the OWF Project area that falls within Victoria’s territorial boundaries. Spinifex aim to continue to work closely with Traditional Owners as we investigate the feasibility of this location for an OWF Project.

At this stage, the number, location and significance of offshore (underwater) Aboriginal cultural heritage sites within the offshore investigation area or areas adjacent, other than Deen Maar, that are known to local Traditional Owners is unknown. The project team will conduct searches of the Aboriginal Cultural Heritage Register to identify any registered sites as part of its due diligence. Traditional Owners from the region will be key stakeholders for this action, and the larger OWF action.

The *Underwater Cultural Heritage Act 2018* (Cwealth) protects Aboriginal and Torres Strait Islander underwater cultural heritage if discovered in Commonwealth waters. The Victorian AHA applies to protect Aboriginal heritage in Victoria's coastal waters.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The offshore investigation area does not cross or interfere with any onshore hydrological features.

In the offshore investigation area the wave climate is dominated by swell waves. Typical swell wave peak periods range between 10–15 seconds. The mean monthly significant swell wave height ranges from 2.0 m to 3.1 m. The season between November and April inclusive experiences lower swells than the winter months between May and October. Seas are not a major contributor to the wave climate, with typical seas significant wave height from 0–2 m.

Current speed within the offshore investigation area is mostly low with main contributors being tides and local wind-generated currents. Peak tidal flows resulting in uniform currents throughout the water column are generally of the order 0.10–0.25 m/s which are considered benign. The current speed at 2.5 m water depth does not exceed 0.25 m/s for more 90 per cent of the time. Local wind-generated currents resulting from friction at the air-water interface can drive higher current speeds, with the 50-year return period current speed at 2.5 m water depth still only 0.71 m/s.

There is limited data from the Marine Sediments (MARS) database for the offshore investigation area. However, we expect sediments to be dominantly coarse sand and gravel-sized bioclastic (shell) debris with up to 25 per cent quartz. Nearshore we expect basalt outcrops and/or debris (i.e. basalt boulders) to be present.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	Yes	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no World Heritage properties within the offshore investigation area.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no National Heritage places within the offshore investigation area.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Ramsar wetland areas within or adjacent to the offshore investigation area.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Amphibromus fluitans	River Swamp Wallaby-grass, Floating Swamp Wallaby-grass
No	No	Antechinus minimus maritimus	Swamp Antechinus (mainland)
No	Yes	Ardenna grisea	Sooty Shearwater
Yes	Yes	Balaenoptera borealis	Sei Whale
Yes	Yes	Balaenoptera musculus	Blue Whale
Yes	Yes	Balaenoptera physalus	Fin Whale
No	No	Botaurus poiciloptilus	Australasian Bittern
No	No	Caladenia hastata	Melblom's Spider-orchid
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris canutus	Red Knot, Knot
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Callocephalon fimbriatum	Gang-gang Cockatoo
Yes	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle
No	No	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
Yes	Yes	Chelonia mydas	Green Turtle
No	No	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
No	Yes	Diomedea antipodensis	Antipodean Albatross
No	Yes	Diomedea epomophora	Southern Royal Albatross
No	Yes	Diomedea exulans	Wandering Albatross
No	Yes	Diomedea sanfordi	Northern Royal Albatross
No	No	Euastacus bispinosus	Glenelg Spiny Freshwater Crayfish, Pricklyback
Yes	Yes	Eubalaena australis	Southern Right Whale
No	No	Falco hypoleucos	Grey Falcon
Yes	Yes	Galeorhinus galeus	School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Glycine latrobeana	Clover Glycine, Purple Clover
No	No	Grantiella picta	Painted Honeyeater
No	Yes	Halobaena caerulea	Blue Petrel
No	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern)
No	No	Ixodia achillaeoides subsp. arenicola	Sand Ixodia, Ixodia

Direct impact	Indirect impact	Species	Common name
No	Yes	Lathamus discolor	Swift Parrot
No	No	Lepidium aschersonii	Spiny Peppercress
No	No	Limosa lapponica baueri	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit
No	No	Lissolepis coventryi	Swamp Skink, Eastern Mourning Skink
No	No	Litoria raniformis	Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog
No	Yes	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	Yes	Macronectes halli	Northern Giant Petrel
No	No	Miniopterus orianae bassanii	Southern Bent-wing Bat
No	No	Nannoperca obscura	Yarra Pygmy Perch
No	Yes	Neophema chrysogaster	Orange-bellied Parrot
No	Yes	Neophema chrysostoma	Blue-winged Parrot
Yes	Yes	Neophoca cinerea	Australian Sea-lion, Australian Sea Lion
No	No	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	Yes	Pachyptila turtur subantarctica	Fairy Prion (southern)
No	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
No	Yes	Phoebetria fusca	Sooty Albatross
No	No	Potorous tridactylus trisulcatus	Long-nosed Potoroo (southern mainland)

Direct impact	Indirect impact	Species	Common name
No	No	Prasophyllum litorale	Coastal Leek Orchid
No	No	Prasophyllum spicatum	Dense Leek-orchid
No	No	Prasophyllum suaveolens	Fragrant Leek-orchid
No	No	Prototroctes maraena	Australian Grayling
No	No	Pseudomys shortridgei	Heath Mouse, Dayang, Heath Rat
No	Yes	Pterodroma leucoptera leucoptera	Gould's Petrel, Australian Gould's Petrel
No	Yes	Pterodroma mollis	Soft-plumaged Petrel
No	No	Pteropus poliocephalus	Grey-headed Flying-fox
No	No	Pterostylis chlorogramma	Green-striped Greenhood
No	No	Pterostylis cucullata	Leafy Greenhood
No	No	Rostratula australis	Australian Painted Snipe
No	No	Senecio psilocarpus	Swamp Fireweed, Smooth-fruited Groundsel
Yes	Yes	Seriolella brama	Blue Warehou
No	No	Stagonopleura guttata	Diamond Firetail
No	Yes	Sternula nereis nereis	Australian Fairy Tern
No	Yes	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
No	Yes	Thalassarche bulleri platei	Northern Buller's Albatross, Pacific Albatross

Direct impact	Indirect impact	Species	Common name
No	Yes	Thalassarche carteri	Indian Yellow-nosed Albatross
No	Yes	Thalassarche cauta	Shy Albatross
No	Yes	Thalassarche chrysostoma	Grey-headed Albatross
No	Yes	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	Yes	Thalassarche melanophris	Black-browed Albatross
No	Yes	Thalassarche salvini	Salvin's Albatross
No	Yes	Thalassarche steadi	White-capped Albatross
No	No	Thelymitra orientalis	Hoary Sun-orchid
No	No	Thinornis cucullatus cucullatus	Eastern Hooded Plover, Eastern Hooded Plover
Yes	Yes	Thunnus maccoyii	Southern Bluefin Tuna
No	No	Tringa nebularia	Common Greenshank, Greenshank
No	No	Xerochrysum palustre	Swamp Everlasting, Swamp Paper Daisy

Ecological communities

Direct impact	Indirect impact	Ecological community
Yes	Yes	Giant Kelp Marine Forests of South East Australia
No	No	Grassy Eucalypt Woodland of the Victorian Volcanic Plain

Direct impact	Indirect impact	Ecological community
No	No	Natural Temperate Grassland of the Victorian Volcanic Plain

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The PMST identifies 79 Listed THREATENED species consisting of 41 birds, 13 mammals, 13 plants, 4 reptiles, 4 fish, two sharks, one crustacean, and one amphibian that are known or likely to occur within the investigation area.

These include the following 41 bird species; Sooty Shearwater (Vulnerable (V)), Australasian bittern (Endangered (E)), sharp-tailed sandpiper (V), red knot (V), curlew sandpiper (Critically Endangered (CE)), gang-gang cockatoo (E), Antipodean albatross (V), southern royal albatross (V), wandering albatross (V), northern royal albatross (E), grey falcon (V), Latham's snipe (V), painted honeyeater (V), blue petrel (V), white-throated needletail (V), swift parrot (CE), Nunivak bar-tailed godwit (E), southern giant-petrel (E), northern giant petrel (V), orange-bellied parrot (CE), blue-winged parrot (V), eastern curlew (CE), fairy prion (V), sooty albatross (V), Gould's petrel (E), soft-plumaged petrel (V), Australian painted snipe (E), diamond firetail (V), Australian fairy tern (V), Buller's albatross (V), northern Buller's albatross (V), Indian yellow-nosed albatross (V), shy albatross (E), grey-headed albatross (E), Campbell albatross (V), black-browed albatross (V), Salvin's albatross (V), white-capped albatross (V), greater sand plover (V), common greenshank (E) and eastern hooded plover (V).

The 13 listed threatened mammals include the terrestrial mammals of swamp antechinus (V), spot-tailed quoll (E), southern brown bandicoot (E), southern bent-wing bat (CE), yellow-bellied glider (V), long-nosed potoroo (V), heath mouse (E), grey-headed flying-fox (V), and the five marine mammals include the sei whale (V), blue whale (E), fin whale (V), southern right whale (E) and Australian sea-lion (E).

The 13 listed threatened terrestrial plants include river swamp wallaby-grass (V), Melblom's spider-orchid (E), clover glycine (V), sand ixodia (V), spiny peppercress (V), coastal leek-orchid (CE), dense leek-orchid (V), leafy greenhood (V), swamp fireweed (V), hoary sun-orchid (CE), swamp everlasting (V), fragrant leek-orchid (E), and green-striped greenhood (V).

The 4 listed threatened reptiles include the swamp skink (E), and three marine turtles, the loggerhead turtle (E), green turtle (V) and leatherback turtle (E).

The 4 listed threatened fish species include the Yarra pygmy perch (E), Australian grayling (V), blue warehou (Conservation Dependent (CD)) and southern bluefin tuna (CD).

The two listed threatened sharks are the great white shark (V) and the school shark (CD).

The one listed threatened crustacean is the Glenelg spiny freshwater crayfish (E).

The one listed threatened amphibian is the southern bell frog (V).

Potential direct and indirect impacts to protected matters are summarised below. Potential impacts to each species are identified in **Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48.**

Potential DIRECT impacts to protected matters include:

- Underwater sound from geophysical investigation acoustic equipment, geotechnical drilling (boreholes) and the survey vessels – localised and temporary behavioural disturbance to noise sensitive marine fauna,
- Underwater sound from geophysical investigation acoustic equipment and geotechnical drilling (boreholes) – potential for auditory impairment (Permanent Threshold Shift (PTS) or Temporary Threshold Shift (TTS)) in noise sensitive marine fauna in close proximity to the sound source,
- Drilling fluids/muds discharges associated with drilling boreholes – potential localised toxicity. However, risk is negligible to low as drilling fluids/muds used will be seawater and non-toxic biodegradable fluid/muds,
- Vessel collision with listed species – potential injury/death of an animal,
- Equipment entanglement (towed equipment) – potential injury of an animal,
- Accidental release of solid objects overboard – potential entanglement and injury of an animal.

Potential INDIRECT impacts to protected matters include:

- short-term / localised seabed disturbance resulting from grab sampling,
- drilling boreholes,
- coring and anchoring.
- Short-term light pollution from survey vessels.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

As significant impacts on threatened species are highly unlikely, the proposed action is not considered a significant impact. Refer to **Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48.**

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

As significant impacts on threatened species are highly unlikely, the proposed action is not considered a controlled action. Refer to **Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48.**

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Below is a summary of the proposed management measures. The full range of proposed control measures for the activity are outlined in **Att A - Offshore Investigations - Significant Impact Assessment, Table 4-1, pp 51-58.**

Acoustic disturbance to cetaceans

- At least one dedicated Marine Mammal Observer (MMO) supported by sufficiently trained crew to maintain a watch for whales and implement standard management measures.
- A pre-start visual observation period of 30 mins will be applied out to 500 m from the vessel prior to the start of the SBP activity.
- A 500 m shutdown zone will be maintained around SBP once operational.
- Start-up delay procedure if whales are sighted within the 3 km observation zone.
- If a whale is detected within the limits of visibility (as per PS 2.1 B.4), the vessel will change course and move to sample in a direction away from the cetacean so as not to encroach within the area that behavioural disturbance could occur.
- Night-time and low visibility controls will also be implemented (as per PS 2.1 A.3.6) whereby DP operations can only commence at night if operations were previously underway during the preceding 24 hours, the vessel has been in the vicinity (approximately 10 km) of the proposed start up position for at least 2 hours (under good visibility conditions) within the preceding 24 hour period, and no whales have been sighted.

Collision with marine fauna or entanglement

- Geophysical investigation and support vessels will not travel at greater than 6 knots within 300 m of a cetacean (caution zone)
- Geophysical investigation and support vessels will not approach closer than 50 m for a dolphin and/or 100 m for a whale (with the exception of animals bow riding).
- Watch maintained for marine fauna prior to deployment of wet equipment, with deployment delayed if entanglement risk is considered high.
- Buoys (including GPS transponder, lights) and automatic recovery devices will be attached to the SBP streamer (if used) to facilitate recovery in the event of loss and reduce entanglement risk.
- Recording installations will be maintained in a good state of repair, working order and condition, and no part of them will impede, interfere with or become a danger to marine fauna.

Seabed disturbance

- Where practicable, drilling locations will be located to minimise the potential impact on significant habitats.

- Seawater is the primary constituent of geotechnical drilling fluids. Inert drilling fluid additives may be added to the seawater to form a water-based mud (WBM) if challenging boring conditions are encountered.

Artificial light emissions

- Vessel to maintain appropriate lighting, navigation and communication at all times to inform other users of the position and intentions of the survey vessel.
- Non-essential lighting will be switched off when not in use.
- External lighting will be directed onto the deck, reducing light spill to the environment where practicable for safe operations.

Industry standard controls have been adopted from the offshore seismic exploration industry, specifically *EPBC Act Policy Statement 2.1 - Interaction between offshore seismic exploration and whales: Industry guidelines*. The proposed investigations for this activity will be at significantly lower power than a seismic survey. The controls are considered by regulators and contractors both feasible and effective in mitigating the impacts of the activity. As assessment of how mitigation and management measures align with the procedures is detailed in **Att A - Offshore Investigations - Significant Impact Assessment, Table 4-2, pp 59-61.**

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The proposed action is not considered a controlled action and therefore does not require an offset plan.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
No	Yes	Apus pacificus	Fork-tailed Swift
No	Yes	Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater
No	Yes	Ardenna grisea	Sooty Shearwater
No	Yes	Ardenna tenuirostris	Short-tailed Shearwater
Yes	Yes	Balaenoptera borealis	Sei Whale
Yes	Yes	Balaenoptera musculus	Blue Whale
Yes	Yes	Balaenoptera physalus	Fin Whale
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris canutus	Red Knot, Knot
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
Yes	Yes	Caperea marginata	Pygmy Right Whale
Yes	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle

Direct impact	Indirect impact	Species	Common name
No	No	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
Yes	Yes	Chelonia mydas	Green Turtle
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
No	Yes	Diomedea antipodensis	Antipodean Albatross
No	Yes	Diomedea epomophora	Southern Royal Albatross
No	Yes	Diomedea exulans	Wandering Albatross
No	Yes	Diomedea sanfordi	Northern Royal Albatross
Yes	Yes	Eubalaena australis	Southern Right Whale
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Hirundapus caudacutus	White-throated Needletail
Yes	Yes	Isurus oxyrinchus	Shortfin Mako, Mako Shark
Yes	Yes	Lagenorhynchus obscurus	Dusky Dolphin
Yes	Yes	Lamna nasus	Porbeagle, Mackerel Shark
No	No	Limosa lapponica	Bar-tailed Godwit
No	Yes	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
No	Yes	Macronectes halli	Northern Giant Petrel
Yes	Yes	Megaptera novaeangliae	Humpback Whale
No	No	Monarcha melanopsis	Black-faced Monarch

Direct impact	Indirect impact	Species	Common name
No	No	Motacilla flava	Yellow Wagtail
No	No	Myiagra cyanoleuca	Satin Flycatcher
No	No	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
Yes	Yes	Orcinus orca	Killer Whale, Orca
No	Yes	Phoebetria fusca	Sooty Albatross
No	No	Rhipidura rufifrons	Rufous Fantail
No	Yes	Sternula albifrons	Little Tern
No	Yes	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
No	Yes	Thalassarche carteri	Indian Yellow-nosed Albatross
No	Yes	Thalassarche cauta	Shy Albatross
No	Yes	Thalassarche chrysostoma	Grey-headed Albatross
No	Yes	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
No	Yes	Thalassarche melanophris	Black-browed Albatross
No	Yes	Thalassarche salvini	Salvin's Albatross
No	Yes	Thalassarche steadi	White-capped Albatross
No	No	Tringa nebularia	Common Greenshank, Greenshank

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The PMST identifies 49 MIGRATORY species consisting of 35 birds, 8 marine mammals, 3 sharks, and 3 marine turtles.

The migratory birds include the common sandpiper, grey-headed albatross (E), southern giant-petrel (E), black-browed albatross (V), fork-tailed swift, little tern, sooty albatross (V), northern giant petrel (V), sharp-tailed sandpiper, Latham's snipe (V), southern royal albatross (V), wandering albatross (V), sooty shearwater (V), shy albatross (E), short-tailed shearwater, white-capped albatross (V), Indian yellow-nosed albatross (V), pectoral sandpiper, Buller's albatross (V), Salvin's albatross (V), satin flycatcher, bar-tailed godwit, eastern curlew (CE), red knot (V), curlew sandpiper (CE), flesh-footed shearwater, white-throated needletail (V), yellow wagtail, Campbell albatross (V), northern royal albatross (E), and the Antipodean albatross (V), greater sand plover (V), black-faced monarch, rufous fantail, and common greenshank (E).

The 8 migratory marine mammals are the sei whale (V), blue whale (E), fin whale (V), pygmy right whale, southern right whale (E), dusky dolphin, humpback whale and killer whale.

The 3 migratory sharks are the shortfin mako, white shark (V), and the porbeagle shark.

The 3 migratory marine turtles are the loggerhead turtle (E), green turtle (V) and leatherback turtle (E).

Potential direct and indirect impacts to migratory species are summarised below. There is no important habitat for a listed migratory species that would be substantially modified, destroyed, or isolated as a result of the survey. Potential impacts for each species are identified in **Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48.**

Potential DIRECT impacts to protected matters include:

- Underwater sound from geophysical survey acoustic equipment, drilling (boreholes) and the survey vessels – localised and temporary behavioural disturbance to noise sensitive marine fauna.
- Underwater sound from geophysical survey acoustic equipment and drilling (boreholes) – potential for auditory impairment (Permanent Threshold Shift (PTS or Temporary Threshold Shift TTS)) in noise sensitive marine fauna in close proximity to the sound source.
- Drilling fluids/muds discharges associated with drilling boreholes – potential localised toxicity. However, risk is negligible to low as drilling fluids/muds used will be seawater and non-toxic biodegradable fluid/muds.
- Vessel collision with listed species – potential injury/death of an animal.
- Equipment entanglement (towed equipment) – potential injury of an animal.
- Accidental release of solid objects overboard – potential entanglement and injury of an animal.

Potential INDIRECT impacts to protected matters include short-term / localised seabed disturbance resulting from grab sampling, drilling boreholes, coring and anchoring.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

The intensity, duration and magnitude of the proposed activities will be temporary and short lived. The area under investigation is also relatively small. A detailed impact assessment for the activity is included in **Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48.**

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

Given the industry standard methodology and controls proposed for this activity, our assessment has not identified any potential significant impacts to Migratory Species. Therefore, we consider this proposed action is a non-controlled action.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Below is a summary of the proposed management measures. The full range of proposed control measures for the activity is outlined in **Att A - Offshore Investigations - Significant Impact Assessment, Table 4-1, pp 51-58.**

Acoustic Disturbance to Cetaceans

- At least one dedicated Marine Mammal Observer (MMO) supported by sufficiently trained crew to maintain a watch for whales and implement standard management measures.
- A pre-start visual observation period of 30 mins will be applied out to 500 m from the vessel prior to the start of the sub-bottom profiler (SBP) activity.
- A 500 m shutdown zone will be maintained around SBP once operational.
- Start-up delay procedure if whales are sighted within the 3 km observation zone.
- If a whale is detected within the limits of visibility (as per PS 2.1 B.4), the vessel will change course and move to sample in a direction away from the cetacean so as not to encroach within the area that behavioural disturbance could occur.
- Night-time and low visibility controls will also be implemented (as per PS 2.1 A.3.6) whereby DP operations can only commence at night if operations were previously underway during the preceding 24 hours, the vessel has been in the vicinity (approximately 10 km) of the

proposed start up position for at least 2 hours (under good visibility conditions) within the preceding 24 hour period, and no whales have been sighted.

Collision with marine fauna or entanglement

- Geophysical investigation and support vessels will not travel at greater than 6 knots within 300 m of a cetacean (caution zone)
- Geophysical investigation and support vessels will not approach closer than 50 m for a dolphin and/or 100 m for a whale (with the exception of animals bow riding).
- Watch maintained for marine fauna prior to deployment of wet equipment, with deployment delayed if entanglement risk is considered high.
- Buoys (including GPS transponder, lights) and automatic recovery devices will be attached to the SBP streamer (if used) to facilitate recovery in the event of loss and reduce entanglement risk.
- Recording installations will be maintained in a good state of repair, working order and condition, and no part of them will impede, interfere with or become a danger to marine fauna.

Seabed disturbance

- Where practicable, drilling locations will be located to minimise the potential impact on significant habitats.

Artificial light emissions

- Vessel to maintain appropriate lighting, navigation and communication at all times to inform other users of the position and intentions of the survey vessel.
- Non-essential lighting will be switched off when not in use.
- External lighting will be directed onto the deck, reducing light spill to the environment where practicable for safe operations.

Industry standard controls have been adopted from the offshore seismic exploration industry, specifically EPBC Act Policy Statement 2.1 - Interaction between offshore seismic exploration and whales: Industry guidelines. The proposed investigations for this activity will be at significantly lower power than a seismic survey. The controls are considered by regulators and contractors both feasible and effective in mitigating the impacts of the activity. As assessment of how mitigation and management measures align with the procedures is detailed in **Att A - Offshore Investigations - Significant Impact Assessment, Table 4-2, pp 59-61.**

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The proposed action is not a controlled action.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action does not involve nuclear action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Commonwealth marine area
Yes	Yes	Bass Basin
Yes	Yes	South-east Marine Region

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.7.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Offshore Investigations will be carried out in both Commonwealth and Victorian State waters. The offshore investigation area falls within the South-east Marine Region, which covers the Commonwealth marine area extending from near the far south coast of New South Wales, around Tasmania and westwards to Kangaroo Island in South Australia, including the Commonwealth waters of Bass Strait (Commonwealth of Australia 2012). Likely direct and indirect impacts are described below and are predicted to include localised changes in water and sediment quality, small areas of seabed disturbance and underwater noise from survey activity. Refer to **Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48** for the full impact assessment against the significant impact criteria for the Commonwealth marine area. These changes are predicted to be restricted to the immediate vicinity of the investigation vessel and the effects will be recoverable.

The investigations are not predicted to have a substantial adverse effect on any marine biota, MNES or other protected matters. Potential effects on species recovery, critical habitats, feeding, breeding and migratory behaviours are unlikely. No ecosystem-level or population-level impacts are predicted for any MNES species.

Seabed (benthic habitat) disturbance during grab sampling, coring and drilling will be limited to small areas of the seabed. Geotechnical investigations for soil strength analysis and ground truthing deeper geological sequences will require drilling of boreholes. Borehole drilling may be conducted using a seafloor drill unit deployed from a vessel of opportunity, or alternatively using a dedicated geotechnical drilling vessel.

The drilling vessel will remain on location for up to 4 days per borehole location, depending on the geological strata encountered and the extent of downhole sampling and testing required. The vessel may use a dynamic positioning system or anchors to ensure the vessel remains stationary at a prescribed location. In the event that anchors are used, seabed disturbance will be limited to small areas of the seabed in the immediate footprint of each anchor.

The location of grab sampling sites, coring and borehole sites will be representative across the offshore investigation area but will avoid areas of important habitat such as localised reef habitats. This will be the same for anchoring locations. The investigations will not adversely affect areas of habitat that are important or substantial for marine ecosystem functioning or integrity.

Portland is the mid-point of the Victorian ‘Shipwreck Trail’, a stretch of coastline with a high density of shipwrecks owing to its long period of human settlement, rugged coastline, and treacherous weather. There are 9 known shipwrecks around Cape Nelson and Portland (including one in the northeast corner of the survey area), and a further 16 within Portland Bay (Heritage Victoria). One of the objectives of the geophysical investigation is to identify possible unknown wrecks and confirm the location of known wrecks. Therefore, since the locations of these wrecks are known from existing maps, the vessel will operate with caution in these areas and will verify the location of these wrecks so they can be avoided and protected for the duration of the investigations.

Localised water quality effects around the drill sites will include turbid plumes as suspended solids are released with small volumes of cuttings to the seabed. Heavy particles will settle rapidly to the seabed near the borehole location and finer particles will be diluted and dispersed from the site by natural water movements. The small volumes and low concentrations involved are not predicted to have an adverse effect on biodiversity, ecological function, amenity or human health.

Routine discharges associated with marine operations will be managed in accordance with the requirements of MARPOL, the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* and relevant AMSA Marine Orders. Any changes in water quality would be temporary and localised to surface waters as the discharge would be dispersed and diluted rapidly by open ocean winds, currents and tides. No wastes will be disposed overboard during the survey and as the surveys are of short duration and the drilling fluids/muds are non-toxic; there is negligible risk of harmful chemical accumulation in the area.

The potential for invasive marine species to be introduced and become established from vessel ballast water and/or via vessel biofouling will be prevented through adherence to the Australian Ballast Water Management Requirements (DAWR 2017) to meet the Australian requirements under the *Biosecurity Act 2015* and National Biofouling Management Guidance (Commonwealth of Australia 2009). No introduction and establishment of IMS is predicted and therefore there will be indirect impacts to existing benthic communities.

4.1.7.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.7.6 Describe why you do not consider this to be a Significant Impact. *

The intensity, duration and magnitude of the proposed activities will be temporary and short lived. The area under investigation is also relatively small. A detailed impact assessment for the activity is included in **Att A - Offshore Investigations - Significant Impact Assessment, Table 3-2, pp 36-48.**

4.1.7.7 Do you think your proposed action is a controlled action? *

No

4.1.7.9 Please elaborate why you do not think your proposed action is a controlled action. *

The proposed action is in an area of open ocean where any discharges will be consistent with standard maritime activities and will be rapidly diluted and dispersed. Vessels operate in the area routinely and the presence of an investigation vessel does not increase the risk to MNES. The acoustic sources are all low power in comparison with marine seismic surveys, which have been assessed and approved for other parts of the region. The higher frequencies and lower energy levels mean that sound energy has a much lower potential to effect marine fauna. No effects on the recovery of marine fauna, ecological function or the habitat values of BIAs or critical habitats are expected. Localised seabed disturbance will not affect MNES or other matters protected under the EPBC Act. Overall, it is considered that the proposed action is not a controlled action as it is unlikely to have any significant impacts to protected matters.

Spinifex is committed to ensuring that this activity is undertaken in a way that avoids significant impacts to MNES. The full range of proposed control measures for the activity is outlined in **Att A - Offshore Investigations - Significant Impact Assessment, Table 4-1, pp 51-58.**

4.1.7.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Below is a summary of the proposed management measures. The full range of proposed control measures for the activity is outlined in **Att A - Offshore Investigations - Significant Impact Assessment, Table 4-1, pp 51-58.**

Acoustic Disturbance to Cetaceans

- At least one dedicated Marine Mammal Observer (MMO) supported by sufficiently trained crew to maintain a watch for whales and implement standard management measures.
- A pre-start visual observation period of 30 mins will be applied out to 500 m from the vessel prior to the start of the sub-bottom profiler (SBP) activity.
- A 500 m shutdown zone will be maintained around SBP once operational.
- Start-up delay procedure if whales are sighted within the 3 km observation zone.
- If a whale is detected within the limits of visibility (as per PS 2.1 B.4), the vessel will change course and move to sample in a direction away from the cetacean so as not to encroach within the area that behavioural disturbance could occur.
- Night-time and low visibility controls will also be implemented (as per PS 2.1 A.3.6) whereby DP operations can only commence at night if operations were previously underway during the preceding 24 hours, the vessel has been in the vicinity (approximately 10 km) of the proposed start up position for at least 2 hours (under good visibility conditions) within the preceding 24 hour period, and no whales have been sighted.

Collision with marine fauna or entanglement

- Geophysical investigation and support vessels will not travel at greater than 6 knots within 300 m of a cetacean (caution zone)
- Geophysical investigation and support vessels will not approach closer than 50 m for a dolphin and/or 100 m for a whale (with the exception of animals bow riding).
- Watch maintained for marine fauna prior to deployment of wet equipment, with deployment delayed if entanglement risk is considered high.
- Buoys (including GPS transponder, lights) and automatic recovery devices will be attached to the SBP streamer (if used) to facilitate recovery in the event of loss and reduce entanglement risk.
- Recording installations will be maintained in a good state of repair, working order and condition, and no part of them will impede, interfere with or become a danger to marine fauna.

Seabed disturbance

- Where practicable, drilling locations will be located to minimise the potential impact on significant habitats.

Artificial light emissions

- Vessel to maintain appropriate lighting, navigation and communication at all times to inform other users of the position and intentions of the survey vessel.
- Non-essential lighting will be switched off when not in use.
- External lighting will be directed onto the deck, reducing light spill to the environment where practicable for safe operations.

Industry standard controls have been adopted from the offshore seismic exploration industry, specifically *EPBC Act Policy Statement 2.1 - Interaction between offshore seismic exploration and whales: Industry guidelines*. The proposed investigations for this activity will be at significantly lower power than a seismic survey. The controls are considered by regulators and contractors both feasible and effective in mitigating the impacts of

the activity. As assessment of how mitigation and management measures align with the procedures is detailed in **Att A - Offshore Investigations - Significant Impact Assessment, Table 4-2, pp 59-61.**

4.1.7.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The proposed action is not a controlled action.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Great Barrier Reef is not located within or adjacent to the offshore investigation area.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action will not interfere with water resource in relation to large coal mining development or coal seam gas.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No Commonwealth land is located within or adjacent to the offshore investigation area.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The proposed action does not impact commonwealth heritage places overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

Geophysical and geotechnical investigations, and the methods proposed by Spinifex, are standard within the industry. Without carrying out the proposed action there is no way to complete the engineering work required to design the foundation and substructures associated with the OWF Project.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	19/06/2024	No	High

1.3.2.16 (Person proposing to take the action) Nature of the trust arrangement in relation to the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B - CONFIDENTIAL Spinifex OWF Unit Trust Deed.pdf	14/06/2024	Yes	
#2.	Document	Att C - CONFIDENTIAL Relationship Diagram - Spinifex.pdf	14/06/2024	Yes	

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D - Spinifex - Environment and Community Policy.pdf Spinifex Environment and Community Policy	01/07/2024	No	High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att E - South-East Commonwealth Marine Reserves Network Management Plan 2013-2023.pdf Director of National Parks South-east Commonwealth Marine Reserves Network management plan 2013-2023	01/01/2023	No	High
#2.	Document	Att F - Map 1 IMCRA 4.0 Provisional Bioregions.pdf Department of the Environment and Heritage Provisional Bioregions Map 1	01/01/2006	No	High
#3.	Document	Att G - Heap et al. 2005.pdf Benthic Marine Bioregionalisation of Australia's Exclusive Economic Zone	01/01/2005	No	High
#4.	Document	Att H - DoE Conservation Management Plan Blue Whales.pdf Department of Energy Conservation Management Plan for the Blue Whale 2015-2025	01/01/2015	No	High
#5.	Document	Att I - Gill et al. 2015.pdf Peer-reviewed publication entitled Cetacean Diversity of the Continental Shelf and Slope off Southern Australia	04/04/2015	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att E - South-East Commonwealth Marine Reserves Network Management Plan 2013-2023.pdf Director of National Parks South-east Commonwealth Marine Reserves Network management plan 2013-2023	31/12/2022	No	High

#2.	Document	Att J - SEMR Profile.pdf South-east marine region profile	01/06/2015	No	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.4.9 (Threatened Species and Ecological Communities) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.5.10 (Migratory Species) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.7.2 (Commonwealth Marine Area) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.7.6 (Commonwealth Marine Area) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact	18/06/2024	No	High

Assessment Report

4.1.7.9 (Commonwealth Marine Area) Why you do not think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

4.1.7.10 (Commonwealth Marine Area) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Offshore Investigations - Significant Impact Assessment.pdf Spinifex Offshore Wind Farm Offshore Investigations Significant Impact Assessment Report	18/06/2024	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	97117883173
Organisation name	RPS AAP CONSULTING PTY LTD
Organisation address	Level 16, 222 Exhibition Street Melbourne VIC 3000, Australia

Representative's name	Carolyn Wheeler
Representative's job title	Senior Marine Scientist
Phone	0394 179 700
Email	carolyn.wheeler@rpsgroup.com.au
Address	Level 16, 222 Exhibition Street Melbourne VIC 3000, Australia

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Carolyn Wheeler of RPS AAP CONSULTING PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	655878989
Organisation name	SPINIFEX OFFSHORE WIND FARM PTY LTD
Organisation address	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000

Representative's name	Linden Blair
Representative's job title	Project Development Manager
Phone	0894863069
Email	linden.blair@alintaenergy.com.au
Address	Grosvenor Place, Level 13, 225 George Street, Sydney, NSW 2000

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Linden Blair of SPINIFEX OFFSHORE WIND FARM PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Linden Blair of SPINIFEX OFFSHORE WIND FARM PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☐ I would like to receive notifications and track the referral progress through the EPBC portal. *