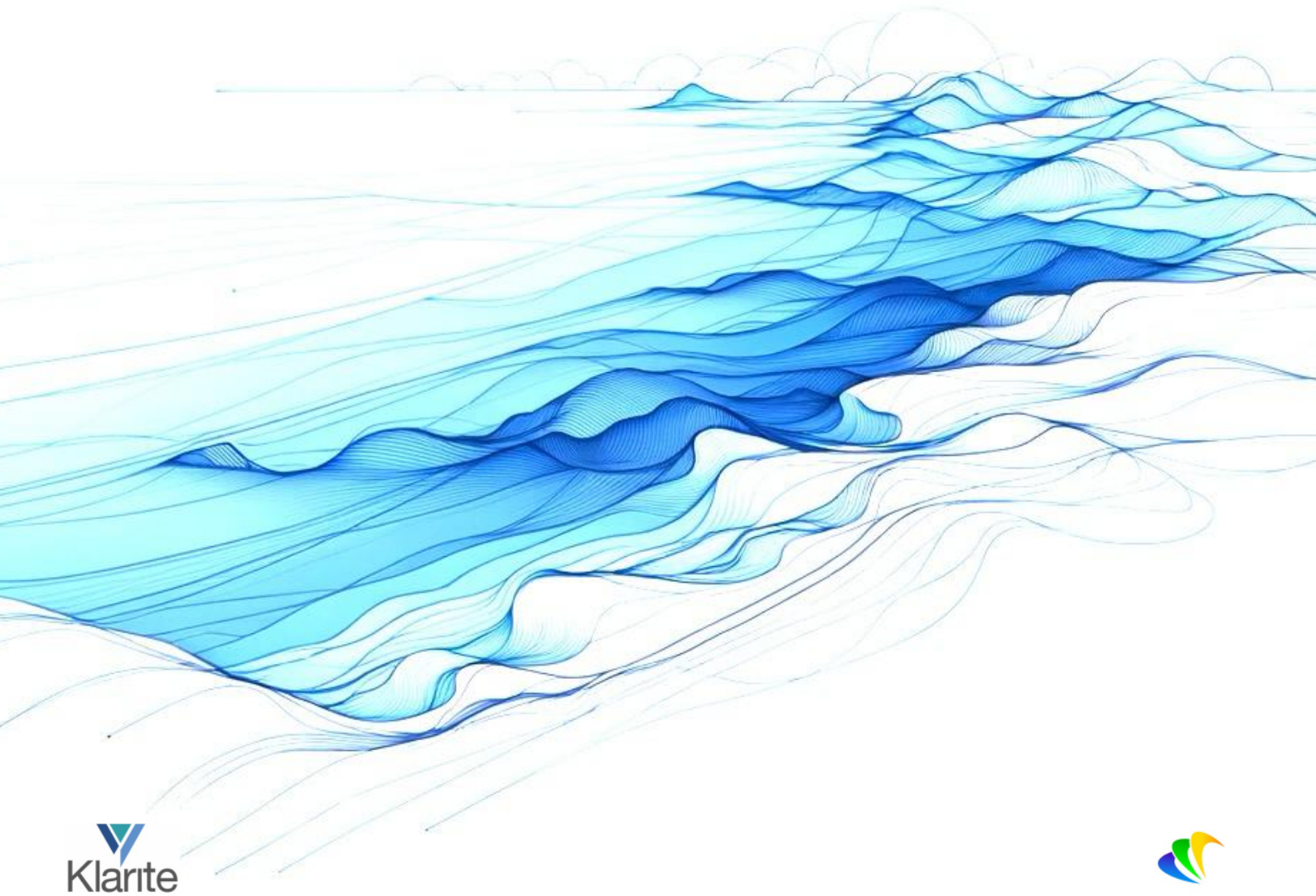
REGIA
Marine Seismic Survey

Risk Assessment
Introduction of Marine Pest Species

Appendix D3: REG-EP-018-D3

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1 Introduction

The introduction of invasive marine species was identified through the Preliminary Environmental Impact and Risk Assessment (**PEIRA**) (Appendix B4) as an aspect needing further assessment. Hence, this document presents a detailed examination of **Invasive Marine Species** as a risk pathway between the Regia Marine Seismic Survey (**Regia MSS**) and the existing environment that may be affected by that aspect.

1.1 Purpose and Scope

The purpose of this document is to assess all acceptable sources of information to provide clear outcomes around levels-of-impact, and any associated mitigation and management measures that may be needed.

This assessment is the second stage of the environmental assessment. Its purpose is to rank the impact according to the criteria set out in the Environmental Assessment Process found in Appendix B3. The purpose of this stage of the assessment is to demonstrate that the impact can be managed to an acceptable level through the adoption of mitigation measures and the setting of an appropriate environmental performance outcome.

The measures adopted because of consultation and because of the assessment will be carried through to the ALARP assessment which occurs in stage three of the overall assessment process. Recommendations will be made if there is any further assessment required in the third stage of the assessment.

1.2 Consultation in Preparation of the EP

This document was first published in draft form to the Document Library of the Regia MSS Consultation Hub on 11 September 2023. This was done to acknowledge that the final full Environment Plan (EP) can be a large document that is difficult for readers to digest in the 30-day public comment period. As such, the public and relevant persons were invited to comment on the document with an explicit request for readers to provide feedback on:

- The accuracy of the described environment that may be affected.
- Any omissions of environmental values and sensitivities relevant to the environmental aspect.
- Any errors or omissions of scientific/peer reviewed literature that should be considered.
- Any errors or omissions of relevant legislation or documents of standing that should be considered.
- Any further mitigation or management measures that should be considered.

Up to 22 December 2023, there were no specific comments received on the content of the document.

2 Aspect – Introduction of Marine Pest Species

2.1 How the Aspect Occurs

The introduction of marine pests could occur from vessels used for the Regia MSS because of:

- Discharge of ballast water containing foreign species.
- Translocation of species through biofouling of the vessel hull and/or niches (e.g., sea chests, bilges, and strainers) or in-water equipment (e.g., source array and streamers).

2.2 Extent and Duration of the Aspect

Duration: 90 days

Extent: Operational Area

The extent of the area where the risk of an introduction of marine pest species may occur is within the Operational Area and the risk could occur while the activity is undertaken.

3 Cause-Effect Pathway

The PEIRA (Appendix B4) identified a cause-effect pathway for marine pests for the following environmental components and their social, cultural, and economic features:

- Benthic assemblages.
- Invertebrates.
- Commercial Fishing and Aquaculture.
- Diving.
- Recreational fishing.
- People and communities.

No cause-effect pathway for marine pests and marine protected areas such as Australian and Victorian marine parks was identified as the closest Australian Marine Park (Apollo) is ~36 km from the Operational Areas (Appendix B12 MAP-REG-EPM-078). The Victorian Twelve Apostles Marine National Park was identified to abut the previous Activity Planning Area and to reduce the risk of IMS translocation into the park a 5 km buffer was put in place for the final Operational Area making the distance to the park from the Operational Area ~ 6 km (Appendix B12 MAP-REG-EPM-079).

Marine pests may become established where conditions are suitable, and these species may have impacts on local ecological and economic values. However, establishment of introduced marine species is mostly likely to occur in shallow waters in areas where large numbers of vessels are present and are stationary for an extended period.

Successful marine pest establishment requires the following three steps (Marine Pest Sectoral Committee 2018):

- Colonisation and establishment of the marine pest on a vector (e.g., vessel hull) in a donor region (e.g., home port).
- Survival of the settled marine species on the vector during the voyage from the donor to the recipient region (e.g., Operational Area).
- Colonisation (e.g., dislodgement or reproduction) of the marine species in the recipient region, followed by successful establishment of a viable new local population.

The Australian Government Bureau of Resource Sciences (BRS) established that the relative risk of a marine pest incursion around the Australian coastline decreases with distance from the shoreline. Modelling conducted by BRS (2007) estimates:

- 33% chance of colonisation at 3 nm.
- 8% chance at 12 nm.
- 2% chance at 24 nm.

If the risk of establishment of IMS is realised, the following known and potential environmental impacts may occur:

- Change in ecosystem dynamics.
- Changes to the functions, interests, or activities of other users.

Change in ecosystem dynamics may include reduction in native marine species diversity and abundance, displacement of native marine species, socio-economic impacts on commercial fisheries, and changes to conservation values of protected area.

4 Description of the Existing Environment that May be Affected by the Activity

As detailed in Section 2.2, the Operational Area has been adopted as the extent of the area wherein marine pest translocation could occur from Regia MSS vessels.

As detailed in the PMST Report for the Operational Area (Appendix B5) there are no marine protected areas within the Operational Area. The Operational Area overlaps the West Tasmanian Canyons Key Ecological Feature (KEF) and the Giant Kelp Marine Forests of Southeast Australia Threatened Ecological Community (TEC). However, giant kelp requires clear, shallow water no deeper than approximately 35 m deep (TSSC 2012) which is outside the water depths for the Regia MSS Operational Area (40 to 1,400 m) and thus it is not assessed further.

PMST searches were run again prior to resubmission to ensure any changes to species or listings were identified to control for passage of time. There are no changes to protected matters information for receptors that may be impacted by an introduction of marine pests [Section added in response to Matters: I16 and I17]

4.1 Marine Pests

In the South-east Marine Region, 115 marine pest species have been introduced and an additional 84 have been identified as possible introductions, or 'cryptogenic' species (NOO 2002). Several introduced species have become pests either by displacing native species, dominating habitats or causing algal blooms.

Marine pests in Victoria marine waters according to Parks Victoria (No date) and Agriculture Victoria (2023) are:

- Asian date mussel (*Musculista senhousia*) – prefers soft sediments in waters up to 20 m deep, forming mats and altering food availability for marine fauna. Found in Port Phillip and Western Port, including Yaringa and French Island Marine National Parks; some records from eastern Victoria, particularly the Gippsland Lakes.
- Asian shore crab (*Hemigrapsus sanguineus*) - found on hard surfaces like under rocks, shells, debris or artificial structures (marinas, moorings, etc.) in exposed rocky coasts, estuaries, tidal flats and shallow waters. Currently present in Port Phillip Bay.
- Cord grass (*Spartina anglica* and *Spartina x townsendii* sp) – found at the mouth of Bass River and in drain outlets near Tooradin in Westernport. Widespread in South Gippsland including Anderson's Inlet and Corner Inlet. Invades native saltmarsh, mangroves and mudflats, altering the mud habitat and excluding other species.
- Dead man's fingers (*Codium fragile* ssp. fragile) – widespread in Port Phillip and known to inhabit San Remo and Newhaven in Westernport. It grows rapidly to shade out native vegetation and can regenerate from a broken fragment enabling easy transfer from one area to another. Attaches to subtidal rocky reef and other hard surfaces.
- European fan worm (*Sabella spallanzanii*) - found at depths down to 30 m and is found in nutrient-rich waters in sheltered locations where there are no strong currents and little wave action. It is a filter feeder and grows on soft sediments or anchors itself to rocks, mollusc shells, jetties, pontoons or other solid surfaces. Well established in Port Phillip and some other local ports but not yet observed in Western Port or elsewhere.
- Green Shore Crab (*Carcinus maenas*) - voracious and aggressive predator with a broad diet, it out-competes native crabs for food and habitat. It is a major cause of mortality of native crabs and mollusc populations. Widespread across Victoria and common in Port Phillip and Western Port. This crab has been present in Victoria since the 1800s
- New Zealand screw shell (*Maoricolpus roseus*) – lies on or partially buried in sand, mud or gravel in waters up to 130 m deep. It can densely blanket the sea floor with live and dead shells and compete with native scallops and other shellfish for food. This species is widespread in coastal areas of Eastern Victoria, including Corner Inlet and has been found

west of Wilsons Promontory in Waratah Bay and Shallow Inlet. Its range is slowly expanding westward. Not currently known in Port Phillip or Western Port.

- Northern pacific seastar (*Asterias amurensis*) – prefer soft sediment habitat, but also use artificial structures and rocky reefs, living in water depths usually less than 25 m but up to 200 m water depths. It is thought to have been introduced in 1995 through ballast water from Japan.
- Pacific Oyster (*Crassostrea gigas*) - alter habitats by covering substrates, forming reefs and over growing native species. It is fast growing and is a filter feeder, competing with native species for food. Known pest in Western Port. Also observed in Port Phillip, Tidal River, Corner Inlet and Nooramunga Marine and Coastal Park however not considered a pest in these locations.
- Red Algae (*Grateloupia turuturu*) - large size of the plant shades out native algae on the reef. It grows rapidly in summer and dies back in winter causing large change in the availability of food for grazers such as snails. Widespread in northern Port Phillip.
- Wakame (*Undaria pinnatifida*) - grows rapidly and forms dense underwater forests, outcompeting native kelp and algae for light and space, then dies back in summer, changing kelp habitat. Well established in Port Phillip but currently not present in other Victorian locations, apart from Apollo Bay Harbour.

The National Introduced Marine Pests Information System (NIMPIS 2023) indicates that Portland, a potential port for mobilisation, harbours the following marine pests:

- Bryozoan (*Bugula neritina*) - most abundant bryozoans in ports and harbours and an important member of the fouling community. They grow well on pier piles, vessel hulls, buoys, and similar submerged surfaces.
- Bryozoan (*Cryptosula pallasiana*) - typical habitats include seagrasses, drift algae, oyster reef, artificial structures such as piers and breakwaters, man-made debris, rock, shells, ascidians, glass and vessel hulls. It has been reported from depths down to 35 m.
- Dead man's fingers (*Codium fragile* ssp. fragile) - as per Victorian waters.
- East Asian bivalve (*Theora lubrica*) - typically lives in muddy sediments from the low tide mark to 50 m, however it has been found at 100 m.
- European clam (*Varicorbula gibba* - inhabits the shallow sublittoral zone to depths of around 140 m, where it is a shallow burrower in thick muddy sand with coarse elements.
- European fan worm (*Sabella spallanzanii*) - as per Victorian waters.
- Fanworm (*Euchone limnicola*) - burrows into soft sediments, secreting a mucous layer to enable it to build firm burrow walls.
- Solitary ascidian (*Ascidiella aspersa*) - found from intertidal to shallow subtidal waters to 50 m depth attached to clay, stones, rocks, algae and wharf piles, where it can be the dominant fouling species.
- Toxic dinoflagellate (*Alexandrium tamarense*) - found in the photic zone; 1-20 m depth inshore; possibly deeper offshore.
- Toxic dinoflagellate (*Alexandrium minutum*) - found to a depth of 20 m in inshore waters but may also be found deeper offshore.
- Wakame (*Undaria pinnatifida*) – as per Victorian waters.
- White bushy bryozoan (*Amathia distans*) - Usually found in sheltered, often turbid, waters. Rocks, rock reef, oyster reef, docks, pilings, breakwaters, buoys, pontoons, man-made debris, and drift algae are all good substrates for this species.

The National Introduced Marine Pests Information System (NIMPIS 2023) indicates that other ports which may be used for the survey, Warrnambool, Apollo Bay or Port Fairy do not currently harbour any marine pests.

4.2 Benthic Assemblages

Benthic assemblages are biological communities that live in or on the seabed. They typically contain light-dependent taxa such as algae, seagrass and corals, which obtain energy primarily from

photosynthesis, and/or animals such as molluscs, sponges and worms. Benthic habitats are the seabed substrates that benthic communities grow on or in; these can range from unconsolidated sand to hard substrates (e.g., limestone) and occur either singly or in combination.

Rocky reefs and hard grounds are in all areas of the South-east Marine Region continental shelf including Bass Strait, from the sub-tidal zone shore to the continental shelf break. On the continental shelf, rocky reefs and hard grounds provide attachment sites for macroalgae and sessile invertebrates, increasing the structural diversity of shelf ecosystems. The reefs provide habitat and shelter for fish and are important for aggregations of biodiversity and enhanced productivity. The shallowest depth at which the rocky reefs occur in Commonwealth waters is approximately 50 m (CoE 2015a).

Corals do not occur as a dominant habitat type within the Environmental Planning Area. Reef development by hard corals does not occur further south than Queensland (Tzioumis and Keable, 2007). Soft corals are typically present in deeper waters throughout the continental shelf, slope and off-slope regions, to well below the limit of light penetration (BBG 2003, Boreen et al. 1993). Gorgonian corals (soft corals) were identified during seabed surveys of the Beach Otway Development area within the Environmental Planning Area (Ramboll 2020).

James et al (2013) undertook extensive surveys of macroalgal communities along the Otway Shelf from Warrnambool to Portland in south-west Victoria. Sites were adjacent to shore or on offshore rocky reefs covering a depth range of 0 to 36 meters water depth. These surveys did not locate giant kelp at any site but identified that other brown algae species (*Durvillaea, Ecklonia, Phyllospora, Cystophora*, and *Sargassum*) are prolific to around 20 m water depth. Brown algae tend to be replaced by red algae in deeper waters.

4.3 Invertebrates

Studies by the Museum of Victoria found that invertebrate diversity was high in southern Australian waters although the distribution of species was patchy, with little evidence of any distinct biogeographic regions (Wilson and Poore 1987). Results of sampling in shallower inshore sediments reported high diversity and patchy distribution (Parry et al. 1990). In these areas, crustaceans, polychaetes, and molluscs were dominant.

Throughout the region, a variety of seabed habits support a range of animal communities such as sparse sponges to extensive 'thickets" of lace corals and sponges, polychaete worms and filter feeders (DNP 2013). Echinoderms, such as sea stars, sea urchins and sea cucumbers are also an important fauna species of the southern Australian and Tasmanian waters, with several species at risk of extinction (DPIPWE 2020).

4.4 West Tasmanian Canyons Key Ecological Feature

The West Tasmanian Canyons are located on the relatively narrow and steep continental slope west of Tasmania. This location has the greatest density of canyons within Australian waters where 72 submarine canyons have incised a 500 km-long section of slope (Heap & Harris 2008).

The Operational Area overlaps a small portion of the West Tasmanian Canyons KEF (Appendix B12 MAP-REG-EPM-004).

Submarine canyons modify local circulation patterns by interrupting, accelerating, or redirecting current flows that are generally parallel with depth contours. Their size, complexity and configuration of features determine the degree to which the currents are modified and hence their significant influence on local nutrients, prey, dispersal of eggs, larvae and juveniles and benthic diversity with subsequent effects which extend up the food chain.

Eight submarine canyons surveyed in Tasmania, Australia, by Williams et al (2009) displayed depth-related patterns with regard to benthic fauna, in which the percentage occurrence of faunal coverage

visible in underwater video peaked at 200-300 m water depth, with averages of over 40% faunal coverage. Coverage was reduced to less than 10% below 400 m depth. Species present consisted of low-relief bryozoan thicket and diverse sponge communities containing rare but small species in 150 to 300 m water depth.

Sponges are concentrated near the canyon heads, with the greatest diversity between 200 m and 350 m depth. Sponges are associated with abundance of fishes and the canyons support a diversity of sponges comparable to that of seamounts. Based upon this enhanced productivity, the West Tasmanian Canyon system includes fish nurseries (blue wahoo and ocean perch), foraging seabirds (albatross and petrels), white shark and foraging blue and humpback whales (CoA 2015a).

4.5 Commercial and Recreational Fishing and Aquaculture

As detailed in the Commercial Fisheries Analysis Report (Appendix B6), the Operational Area overlaps the following fisheries that have catch effort:

- Commonwealth:
  - Southern and Eastern Scalefish and Shark (SESS) Fishery SESSF following sectors:
    - Scalefish Hook
    - Shark Gillnet sector
  - Trawl – otter board
  - Southern Squid Jig Fishery
- Victorian:
  - Giant Crab
  - Multi-species Ocean
  - Octopus
  - Southern Rock Lobster
  - Wrasse

Recreational fishing may occur within the Operational Area but there are no known popular areas.

No aquaculture sites have been identified within the Operational Area and thus it is not assessed further.

4.6 Diving

No dive sites have been identified within the Operational Area and thus it is not assessed further.

4.7 People and Communities

4.7.1 Social and Economic Features

During consultation, as presented in Annex 2, objections and claims were raised regarding concerns of impacts on the local flora and fauna, which may impact tourism and local enjoyment of the area. The commercial fisheries that overlap the Operational Area and have catch effort are described in Section 4.5.

4.7.2 Cultural Features

Kelp forests, home to giant and bull kelps, are identified as culturally significant to the Wadawurrung People as habitats and food sources for numerous animals, including rock lobster and abalone and their ability to be used to create water carriers (WTOAC, 2020) (Appendix F3, Section 3.16.1).

Several invertebrate species including torbos, pipis, abalone, limpets, mussels, elephant snails, crayfish/lobster, crabs and squid are identified as culturally significant to the Gunditjmara People as both a resource and in harvesting as a cultural practice (GMTOAC, 2023). Barnabeel (oyster), murrabal (mussel), bam bam (crayfish), abalone and pipi are also culturally important resources to the Wadawurrung People (WTOAC, 2020). Invertebrate species are an important traditional, social and economic resource for the Eastern Maar People. Abalone, cockles and crayfish are collected as tucker along the coast (EMAC, 2015) (Appendix F3, Section 3.16.1).

5 Relevant Legislative and Other Requirements

CGG has considered all the relevant legislative requirements, that apply to the risk of the introduction of invasive marine species (see Appendix B2). Measures that will be adopted to demonstrate how these requirements will be met are as follows:

- CGG Marine Assurance System which includes a vessel contractor pre-qualification assessment and OVID-Style Inspections prior to the activity starting that:
  - Checks that vessels used have met the following requirements before being deployed for the survey:
    - Biosecurity Act 2015
    - Biosecurity Regulations 2016
    - Biosecurity Amendment (Biofouling Management) Regulations 2021
    - Marine Order 98 - Marine pollution prevention - antifouling systems
    - Australian Ballast Water Management Requirements
    - Australia Biofouling Management Requirements
    - Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (Biofouling Guidelines)
    - Marine Pest Plan 2018–2023: National Strategic Plan for Marine Pest Biosecurity
    - National Biofouling Management Guidance for the Petroleum Production and Exploration Industry 2009.
  - Check the vessel Anti-Fouling System.

6 Defining Acceptable Levels of Risk

Category	Defined Acceptable Level (General)	Defined Acceptable Level (Aspect Specific)	Rationale
Principles of ESD	The petroleum activity results in temporary / reversible, small scale, and/or low intensity environmental damage.	Prevent the introduction of any invasive marine pest species.	Australia is a party to the MARPOL convention and the International Convention on the Control of Harmful Anti-fouling Systems, which requires prevention of marine environmental pollution from shipping. Prevention of IMS will ensure the Regia MSS is compliant with the relevant legislation.
	The impact and risk assessment process are based on sufficient information to understand if: Serious/irreversible environmental damage is predicted; or The application of the precautionary principle is applied in the presence of scientific uncertainty.		
	Environmental management of the activity must not be inconsistent with EPBC Act Management Plans and Recovery Plans.		
Biological	Impacts and risks to biological features will be temporary / reversible, small scale, and/or low intensity environmental damage at population levels.		
Ecological	Impacts and risks to ecological features will be temporary / reversible, small scale, and/or low intensity damage to the overall health, diversity, or functioning of the ecosystem.		
Economic	Affected persons will not be worse off because of the activity.	Industries, livelihoods, and ecosystem services remain viable, with no sustained financial or operational consequences resulting from changes in species behaviour, abundance, or access to resources.	For species and sensitivities with social, cultural and/or economic values, if the potential ecological impact or risk is deemed acceptable, it is likely that the corresponding impact on social, cultural and/or economic values will also be considered acceptable, as the physical presence and health of these species
Cultural	Impacts and risks to cultural features including cultural values, traditions, or practices, will be temporary / reversible, small scale, and/or low intensity.	Culturally important species, places, and practices can continue without disruption to their role, accessibility, or long-term viability.	

Category	Defined Acceptable Level (General)	Defined Acceptable Level (Aspect Specific)	Rationale
Social	Measures have been adopted based on the consultation process to address relevant objections and claims of relevant persons. The views of public have been considered in the impact and risk assessment.	People and communities can continue engaging with the natural environment, recreational activities, and heritage values without experiencing long-term or irreversible disruption.	are key for maintaining their social, economic and cultural roles. Predicted levels of impact for species that have social, cultural and economic values will be assessed on a receptor level.
Company	Environmental impacts and risks are consistent with the CGG impact and risk assessment process such that for an impact or risk the effect/ consequence rating is medium or below.	As per the general levels.	CGG is a company familiar with managing the effects of seismic sound on the marine environment, and its global operational history supports the reliability of its internal assessment process. The use of CGG's impact and risk matrix, when consistently applied, has not resulted in unacceptable environmental outcomes, which indicates the process produces conservative and realistic assessment outcomes.

7 Consultation Input

CGG carried out the consultations required by the regulations to:

- Improve the predictive quality of this assessment by seeking relevant person input into the preparation of the EP.
- To verify the description of the environment that CGG produced as part of its environmental assessment process through information provided to CGG by relevant persons.
- Receive objections or claims about the adverse effects of the activity on a relevant person's functions, interests, or activities.

The information received from relevant persons can be found in each relevant person consultation report. It has been considered in the preparation of this assessment.

Objections or claims about the adverse of the effects of the activity can also be found in each relevant person's consultation report. They have been assessed for merit and CGG has written a statement of its response to each objection or claim. Any objection or claim relevant to this assessment and subsequently considered in its preparation can be found in Annex 2.

8 Minimisation of Risks Through Activity Design

As part of planning and design of the activity, several activity limitations were considered in accordance with the hierarchy of controls and through the consultation process (see Annex 2). These limitations were evaluated to determine whether the source of risk could be eliminated or substituted through changes in the timing, technology, or design of the activity. As described in Appendix F3, section 3.16.2, due to the interconnection between the tangible and intangible cultural values, all activity limitations are relevant to safeguarding social, economic, and cultural features and values, ensuring protection across all areas.

8.1 Elimination

Elimination involves removing the source of an impact or risk entirely through changes to the activity design. In the context of invasive marine species introduction, elimination involves removing or reducing the factors that could lead to this introduction. Two main options were considered and subsequently adopted:

No vessel movements within 5 km of the Twelve Apostles State Marine Park

This measure removes the possibility of transporting biofouling organisms in proximity to a sensitive marine environment. This measure was adopted because of consultation with Marine Parks Victoria who were concerned about IMS risks. It is also protective of cultural values of the marine park and Southern Rock Lobsters which are also a key value.

Ballast water exchange activities will be conducted outside of Marine Protected Areas

By ensuring that these activities occur well outside MPAs, the potential for releasing non-native organisms into highly sensitive and ecologically valuable environments is effectively removed. This approach supports the complete avoidance of invasive species risks in the most vulnerable areas.

8.2 Substitution

Where elimination is not viable, substitution involves altering the timing, location, or sequencing of the activity to reduce the likelihood or consequence of the risk. No substitution-based limitations were required in this case, as the elimination measures applied were sufficient (when applied with other measure types) to reduce the identified risk to an acceptable level.

As part of planning and design of the activity, several activity limitations were considered in accordance with the hierarchy of controls and through the consultation process (see Annex 2. These limitations were evaluated to determine whether the source of risk could be eliminated or substituted through changes in the timing, technology, or design of the activity. As described in Appendix F3, section 3.16.2, due to the interconnection between the tangible and intangible cultural values, all activity limitations are relevant to safeguarding social, economic, and cultural features and values, ensuring protection across all areas.

9 Predicted Levels of Risk

9.1 Change in ecosystem dynamics and social and cultural value

The introduction and subsequent establishment and spread of a marine pest may result in the reduction in native marine species diversity and abundance, displacement of native marine species, changes to conservation values of protected areas and culturally important species. The extent of the initial risk to benthic assemblages are likely to be localised (isolated locations if there is no spread) but may become widespread if establishment and spread occurs.

Receptors which may occur within the Operational Area and are at risk from marine pest introduction are:

- Benthic Assemblages (sponges, bryozoans etc.)
- West Tasmania Canyons KEF
- Invertebrates

Only a small proportion of marine pests become invasive (Wells 2018) with the risk of a marine pest being able to successfully establish itself depending on depth, distance from the coast, water movement and latitude. Survival is not expected in deep oceanic waters (>90 m depth) with establishments more likely within shallower waters (<50m), where vessels are stationary for extended periods of time.

The Regia MSS vessels will not be stationary within the Operational Area and no anchoring will take place further reducing the risk of translocating a marine pest to the seabed. All subsea survey equipment is stored on the vessel so a marine pest would not be able to survive on equipment in these exposed dry conditions. Support vessels will generally not be alongside the survey vessel for more than two hours during support operations, so a cross transfer of a marine pest is highly unlikely.

As the Operational Area at its nearest point is ~7 km from the Victorian coast, BRS (2007) estimates indicate that the chance of colonisation of a marine pest is 33%. However, as detailed in the Existing Environment Section, marine pests which are known to occur in the Bass Strait are limited to either sheltered areas or shallow waters which are not present in the exposed well mixed waters of the Operational Area where water depths range from 40 to 1,400 m.

The CGG Marine Pest Risk Assessment Process ensures contracted vessels meet ballast water and biofouling legislative requirements to prevent the introduction of marine pests.

Values for the West Tasmania Canyons KEF includes sponges that are associated with abundance of fishes and a diversity, greatest between 200 and 350 m, comparable to that of seamounts (DCCEEW 2020d). At the water depths of these values the possibility of a marine pest becoming established is negligible.

No EPBC listed invertebrate species were identified from the PMST Report for the Operational Area (Appendix B5).

The predicted level of consequence of introducing a marine pest causing a change in ecosystem dynamics, and therefore a change to social and cultural value, is assessed as major as there is the potential to alter ecosystem processes and reduce biodiversity. However, the likelihood of a marine pest being present on a Regia MSS vessel and becoming established is assessed as rare due to the implementation of ballast and biofouling management requirements and that a marine pest would be unable to colonize the benthic substrate due to the deep and well mixed waters within the Operational Area. The predicted level of risk is assessed as low.

9.2 Changes to the functions, interests, or activities of other users

The introduction of a marine pest may result in the reduction in native marine species diversity and abundance, displacement of native marine species which could result in changes to commercial fish

species diversity and abundance. The extent of the initial risk to commercial fisheries is likely to be localised if a marine pest introduction occurred and did not spread but may become more widespread if colonisation and spread occurs.

As detailed in the assessment of a change in ecosystem dynamics, the introduction of a marine pest in the Operational Area is unlikely to impact on fisheries within the region as colonisation and spread is unlikely based on the Operational Area water depth and distance from shore which BRS (2007) estimates indicate that the chance of colonisation of a marine pest is 33%. In addition, the low light levels (water depth of 40 to 1,400 m) and well mixed marine environment is not conducive to the establishment of marine pests.

The CGG Marine Assurance System ensures contracted vessels meet ballast water and biofouling legislative requirements to prevent the introduction of marine pests. Thus, it is highly unlikely that marine pests would be present on vessels.

None of the fisheries identified as being active in the Operational Area identified marine pests as a threat. Whilst Southern Rock lobster is suspectable to tail fan necrosis, caused by combination of several bacteria and fishing practices such as live holding (Musgrove et al. 2005) and both crab and lobster can be susceptible to paralytic shellfish toxin, none are related to the introduction of marine pests.

The predicted consequence of introducing a marine pest causing a change to the functions, interests or activities of commercial fisheries is assessed as major as there is the potential to alter ecosystem processes and reduce biodiversity, however, the likelihood of a marine pest being present on a Regia MSS vessel and becoming established is assessed as rare due to the implementation of ballast and biofouling management requirements and that a marine pest would be unable to colonize the benthic substrate due to the deep and well mixed waters within the Operational Area. The predicted level of risk is assessed as low.

9.3 Measures Adopted to Manage Environmental Impact

The following measures have been adopted to ensure that the risks associated with potential introduction of invasive marine species from the survey and support vessels will be of an acceptable level.

These measures have been taken through to the ALARP assessment in the next stage of the CGG assessment process. This assessment can be found in Appendix F2.

Measure	Measure Type	Details and Justification
Vessel contractor pre-qualification assessment	Practice	CGG undertakes this assessment in accordance with its Marine Risk Management Standard (GM-STD-MA-003) to ensure vessel biofouling controls meet these EP requirements.
OVID-Style Inspections	Practice	Confirm that all contracted vessels conduct pre-port entry checks using the National Introduced Marine Pest Information System database and assess changes in known invasive species. Confirm that the sound source and towed streamers will be inspected and cleaned (where required) prior to deployment.
Anti-Fouling Systems	System	Anti-fouling systems are essential for maritime vessels to prevent the accumulation of marine organisms like barnacles, algae, and mussels on the hull. All contracted vessels must have anti-foulant systems that are properly maintained and in compliance with the International Convention on the Control of Harmful Anti-Fouling Systems on Ships.

Measure	Measure Type	Details and Justification
IMS Risk Assessment Procedure	Procedure	A procedure which mandates an IMS risk assessment be conducted on vessels and immersible equipment. The CGG IMS Risk Assessment Procedure aligns with national standards for IMS management. This procedure assures CGG's adherence to the International Convention for the Control and Management of Ship's Ballast Water and Sediments 2004 and the Australian Ballast Water Management Requirements. The IMS risk assessment procedure requires a qualified IMS inspector to, prior to mobilisation into the region, evaluate the vessels operational history, inspection results, and biofouling management measures to determine risk levels before mobilisation. If a vessel or facility presents a low biofouling risk, it may proceed with offshore activities, while moderate or high-risk cases may require actions such as cleaning, antifouling treatments, or operational restrictions depending on the findings to ensure all vessels used during the activity have a 'low-risk' rating. Biofouling management plans and record-keeping align with IMO Guidelines (2011), ensuring vessels maintain effective biosecurity controls, including inspections, maintenance logs, and marine growth prevention systems. Vessels moving between regions will be assessed for prior exposure to high-risk areas.

10 Demonstration Risks Will Be of An Acceptable Level

10.1 Discussion on Principles of ESD

Temporary, Reversible, Small Scale and Natural variation

The risk of introducing marine pests from the petroleum activity is assessed as rare due to the application of stringent biosecurity measures, such as vessel inspections, ballast water management, and compliance with national guidelines. Any residual risk is considered localized, and any potential impacts are expected to be temporary, reversible, and of low intensity, with minimal long-term or widespread environmental consequences. Marine pests are unlikely to establish or spread due to the proactive and robust risk mitigation measures.

Based on Sufficient Information

The risk assessment is informed by peer-reviewed literature, government marine pest databases, and relevant management plans. Expert judgment, alongside an understanding of vessel origin, operational logistics, and known marine pest distribution, supports the conclusion that the risk of pest introduction is low. The assessment incorporates all available data to ensure a conservative and scientifically grounded evaluation of potential risks.

Activity not inconsistent with EPBC Act

The activity is in full compliance with EPBC Act-listed species recovery plans, as well as biosecurity and marine pest management frameworks. The measures in place align with national ballast water management standards and broader marine biosecurity protocols, ensuring no inconsistency with the statutory obligations under the EPBC Act.

10.2 Biological and Ecological Categories

Marine pests are known to cause significant ecological consequences, such as species displacement, loss of biodiversity, and disruption of ecosystem functions. However, the likelihood of marine pest establishment is very low due to the rigorous biosecurity procedures in place. As a result, no significant biological or ecological impacts are predicted. Ecosystem function, biodiversity, and the health of marine habitats are expected to remain intact, with no adverse long-term effects on species composition or ecological processes.

10.3 Discussion on Economic, Cultural and Social Categories

Marine pests have the potential to impact commercial fisheries, aquaculture, and culturally significant marine species. However, the likelihood of pest establishment is minimal, and the application of preventive measures such as biosecurity protocols ensures that the economic, cultural, and social fabric tied to these species remains protected. No long-term disruption to economic activities, including fishing industries or recreational use, is expected. The continuation of traditional and culturally important practices, such as fishing for specific species, will not be hindered. Communities will maintain ongoing access to marine resources and heritage values without experiencing significant or irreversible disruption.

10.4 Discussion on Consistency with Company Processes

The risk assessment process was conducted in line with CGG's internal environmental risk framework, employing a conservative threshold for biosecurity risks. All measures for vessel and equipment mobilization followed national and international best practices for marine pest prevention. The risk of marine pest introduction is considered rare, and there have been no recorded introductions in past company operations. The mitigation strategies implemented by CGG align with industry standards and reflect a commitment to maintaining environmental integrity throughout the project. This consistency with company processes ensures that the activity complies with all relevant environmental regulations and has no adverse long-term effects.

This risk assessment has demonstrated that the introduction of marine pests causing a change to both ecosystem dynamics and to the functions, interests or activities of commercial fisheries has a:

- Predicted level of consequence of major.
- Likelihood of rare.
- Predicted level of risk of medium.

11 Environmental Performance Outcomes

Defined Acceptable Level (From Section 6)	Environmental Performance Outcome	Rationale
Prevent the introduction of any invasive marine pest species.	No introduction of a known or potential invasive marine species.	Biosecurity controls such as vessel inspections, ballast water management, and adherence to national guidelines significantly reduce the risk of marine pest introduction, preserving ecosystem integrity.
Industries, livelihoods, and ecosystem services remain viable, with no sustained financial or operational consequences resulting from changes in species behaviour, abundance, or access to resources.	Social, cultural, and economic features are protected, sustaining their value for people and communities.	Protecting native marine species and preventing the establishment of invasive pests maintains ecological balance, which in turn supports the ongoing viability of industries, cultural practices, and recreational use of the marine environment.
Culturally important species, places, and practices can continue without disruption to their role, accessibility, or long-term viability.		
People and communities can continue engaging with the natural environment, recreational activities, and heritage values without experiencing long-term or irreversible disruption.		

12 Recommendations

The predicted level of risk level is medium; thus, good industry practice (including legislation and standards) has been applied. Risks are of an acceptable level without further recommendations being required.

13 Document Control

Date	Revision	Update
6 July 2023	A	Draft prepared for initial comment
23 August 2023	B	Update based on comments and relevant person feedback
11 Sept 2023	0	Approved for release on Regia MSS website
20 Dec 2023	1	EP submission to NOPSEMA
14 May 2024	2	Reviewed and update following public comment and rerun of the PSMT searches.
28 October 2024	3	Updated following NOPSEMA assessment
16 April 2025	4	Updated following NOPSEMA OMR 1 Letter
6 December	5	Updated following NOPSEMA OMR 2 Letter

14 References

Agriculture Victoria. 2023. Marine pest deck: Invasive species guide. https://agriculture.vic.gov.au/biosecurity/marine-pests/marine-pest-deck-invasive-species-guide

BBG. 2003. Gas Project. Pipeline routes video survey report. Report by Bowman Bishaw Gorham Pty Ltd for Woodside Australia Pty Ltd.

Boreen T, James N, Silson C and Heggi D. 1993. Surfical cool-water carbonate sediments on the Otway continental margin, Southeastern Australia. Elsevier Science Publishers BV., Marine geology, 112 (1993) 35-56.

BRS. 2007. Designated Exchange Areas Project – Providing Informed Decision on the Discharge of Ballast Water in Australia (Phase II). Eds. Knight E, Barry S, Summerson R, Cameron S and Darbyshire R. Report for the Bureau of Rural sciences.

Butler A, Althaus F, Furlani D, Ridgway K. 2002. Assessment of the Conservation Values of the Bass Strait Sponge Beds Area: A component of the Commonwealth Marine Conservation Assessment Program 2002-2004. Report to Environment Australia. CSIRO Marine Research. Hobart.

CoA. 2015a. South-east Marine Region Profile: A description of the ecosystems, conservation values and uses of the South-east Marine Region. Commonwealth of Australia.

DCCEEW. 2023d. West Tasmania Canyons Species Profile and Threats Database. Department of Climate Change, Energy, the Environment and Water.

DSEWPaC. 2012a. Approved Conservation Advice for Giant Kelp Marine Forests of South East Australia. Department of Sustainability, Environment, Water, Population and Communities.

Eastern Maar Aboriginal Corporation, 2015. Country Plan, Meerreengeeye Ngakeepoorryeeyt.

Gunditj Mirring Traditional Owners Aboriginal Corporation RNTBC, 2023. GUNDITJMARA NYAMAT MIRRING PLAN 2023 – 2033.

Heap AD and Harris PT. 2008. Geomorphology of the Australian margin and adjacent seafloor, Australian Journal of Earth Sciences 55(4): 555-585.

James N, Reid C, Bone Y, Levings A and Malcolm I. 2013. The macroalgal carbonate factory at a cool-to-warm temperate marine transition, Southern Australia. 10.1016/j.sedgeo.2013.03.007. Sedimentary Geology.

Marine Pest Sectoral Committee. 2018. National biofouling management guidelines for non-trading vessels. Marine Pest Sectoral Committee, Department of Agriculture and Water Resources, Canberra, November. CC BY 4.0. Document modified in 2018 to meet accessibility requirements.

NIMPIS. 2023. National Introduced Marine Pests Information System. https://nimpis.marinepests.gov.au/mapping/index

NOO. 2002. Ecosystems – Nature's diversity: The South-east Regional Marine Plan Assessment Reports. National Oceans Office. Hobart.

Parks Victoria. No date. Marine Pests in Victoria. A quick reference guide. Victoria State Government.

Parry GD, Campbell SJ and Hobday DK. 1990. Marine resources off East Gippsland, Southeastern Australia. Technical Report No. 72, Marine Science Laboratories. Queenscliff, Victoria.

Ramboll. 2020. Environment Survey Otway Basin. Report for Beach Energy.

TSSC. 2012. Conservation Listing Advice on Giant Kelp Marine Forests of South East Australia. Threatened Species Scientific Committee.

Wadawurrung Traditional Owners Aboriginal Corporation, 2020. Paleert Tjaara Dja, Let's make Country good together 2020-2030 – Wadawurrung Country Plan.

Annex 1

Public Comment

The following consultation feedback was received since the beginning of the public comment period starting 25 January 2024. Table D3- 1 shows how this feedback has been incorporated into the environmental assessments.

Table D3- 1 - Public comment input since the beginning of the public comment period starting 25 January 2024.

Matter	Matter ID	Changes made arising from public comment
Matter: Geographic range and all species need to be defined and considered	I16	CGG has considered these claims and has rerun the PMST reports to ensure that all information on the likely/known presence of relevant species within the area, as well as information on their protection status, Biologically Important Areas (BIAs) and behaviours is up to date. The updated PMST reports are provided in full in EP Appendix B5.
Matter: Lack of detail on EPBC-listed species and enforceable measures	I17	CGG has considered these claims and has rerun the PMST reports to ensure that all information on the likely/known presence of relevant species within the area, as well as information on their protection status, Biologically Important Areas (BIAs) and behaviours is up to date. The updated PMST reports are provided in full in EP Appendix B5.

Annex 2

Objections and Claims Raised from Consultation

During the consultation process relevant persons were invited to raise objections and claims about the adverse effects of the activity. An assessment of merit of each objection or claim has been made by CGG which can be found in the consultation report using the Feedback ID number shown in Table D3-2. If an objection or claim had merit and was relevant to this assessment it has been included in the table below.

Table D3-2 - Objections and Claims raised from consultation.

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
4069	Concerned about the harm being inflicted on oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1673
4356	Concerns about the harm and damage to the marine ecosystem.	Titleholder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the marine environment within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	2831
4075	Concerns about marine life and ecosystems.	The effects of underwater sound have been extensively assessed based on the latest scientific literature. CGG has committed to a variety of protective measures for various marine fauna (see G1)	2117
4085	Concerns of damage to the marine environment by seismic blasting and gas extraction	All available scientific evidence is used to inform the environmental assessment on seismic impacts. There are no impacts identified that will affect the population stability of any taxa.	825
4128	Lack of adequate monitoring of species present or likely to be impacted.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions regarding species that may be affected by the Regia MSS. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	3237
4130	Lasting and unrecoverable damage mentioned.	The titleholder acknowledged the feedback, noting that risks and impacts are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise	4808

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		adverse impacts on marine life are outlined in the EP in G1.	
4154	Questions a previous statement that indicated there would be no mortal effects from seismic activities.	The titleholder acknowledged the feedback, noting that impacts and risks to the marine environment are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts on the marine environment are outlined in the EP in G1.	2088
4158	Reference to the destruction and degradation of the marine environment observed during diving trips.	The titleholder acknowledged the feedback, noting that impacts and risks to the marine environment are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts on the marine environment are outlined in the EP in G1.	2830
4166	Risk to the marine environment with the plan.	Titleholder has conducted a series of thorough risk assessments including the following aspects: Accidentl release of waste (D1), Fauna Interactions (D2), Invasive Marine Species (D3) and Accidental release of fuel (D4), wherin which relevant receptors have been assessed.	2677
4175	Seismic blasting is harmful and disruptive to marine life of many species.	The titleholder acknowledged the feedback, noting that impacts and risks to marine life are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts ont marine life are outlined in the EP in G1.	3343
4176	Seismic blasting negatively affects not only whales but also crucial marine life, including fish, crustaceans, and zooplankton, all of which play vital roles in the marine ecosystem.	The titleholder acknowledged the feedback, noting that impacts and risks to marine life are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts ont marine life are outlined in the EP in G1.	2074
4177	Seismic blasting would have a significant negative effect on marine creatures and ecosystems.	The titleholder acknowledged the feedback, noting that impacts and risks to marine life are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts ont marine life are outlined in the EP in G1.	3343
4186	Stakeholder expressed concern about the destruction and depletion of the ocean due to the activity.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined	2963

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		acceptable levels and is presented in the Environment Plan	
4187	Stakeholder expressed concern about the potentially devastating impact of seismic testing on ocean marine life.	The titleholder acknowledged the feedback, noting that impacts and risks to marine life are assessed in the Environmental Plan (EP) and can be found in D1 to D4 and E1 to E9, and F3. Measures to minimise adverse impacts to marine life are outlined in the EP in G1.	3209
4189	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1653
4190	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1655
4191	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1659
4192	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the	1661

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	
4193	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1662
4194	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1663
4195	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1665
4196	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined	1667

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		acceptable levels and is presented in the Environment Plan	
4197	Stakeholder noted concern for harm being inflicted on our oceans by unnecessary gas exploration.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1670
4211	Stakeholder stated they were extremely concerned about the risks, damage and destruction caused by exploration activities in the marine environment.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan.	1049
4253	The possible effects to marine life and ecosystmens is my primary concern	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	2117
4259	The proposed works will harm and damage the climate and ocean life.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	2256

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
4265	The seismic process is going to affect local marine life, ecosystems, and the climate in the community.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are also in place to reduce any impacts to defined acceptable levels and as low as reasonably practicable.	1259
4267	The Stakeholder also objected to the project on the basis that it would impact every marine creature and sea bird.	Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan. Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any taxa within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	2064
4274	The stakeholder claims that seismic exploration poses a significant danger to marine life in general. This claim suggests a strong opposition to the practice due to its perceived harmful effects on the marine ecosystem as a whole.	The titleholder publically responded to this interactive map comment explaining that legislative framework in Australia permits some impact from offshore petroleum if it is managed and of an acceptable level. We believe that responsible development of gas is essential for maintaining the current quality of life we all enjoy and ensuring we pass that quality of life on to future generations. Gas is part of the Labour governments energy transition plan.	2107
4276	The stakeholder does not accept the blasting activity as beneficial or more important than existing marine life and structures.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	2255
4288	The stakeholder objected to the project on the basis that it would impact the Stakeholder personally and every person in the community who love the ocean. Stakeholder noted that they do not support the activity and find it distressing to even think about the damage that could be caused for thousands of creatures and the	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is	2064

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
	future of herself, other people of Port Fairy and the greater community.	used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan.	
4301	The stakeholder stated that the proposed activity is environmentally unsound irrespective of the assessment process and predicted environmental risk.	Petroleum activities do not operate to a no-impact standard. Instead, the Regia MSS is required to define the acceptable levels of impact and risk, and work below those levels. Acceptable levels of impact are established based on relevant up-to-date technical and scientific studies, government advice, and are considerate of the information gathered through the consultation process. This information is used to make predictions of the levels of impact we expect to occur and compares those to the previously defined acceptable levels and is presented in the Environment Plan	1747
4315	The statement suggest that the significant harm caused by seismic activity to marine life and commercial fisheries, along with the existing natural gas supplies and climate change issues, renders the industrialisation of Port Fairy's coastline unacceptable. It emphasises community disapproval of allowing major oil companies to profit at the expense of the local environment and tourism.	We believe impacts from our activity can be managed to below acceptable levels. Further development of the offshore area would be subject to multiple future approvals. The visual impact from this survey would be temporary and similar to the shipping/fishing activity that already occurs in the region (Event ID 2076).	2076
4354	Uncertainty about the full extent of damage to the marine ecosystem.	Titleholder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the marine environment within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	2831
4358	The stakeholder was concerned about the impacts on flora and fauna being damaged and killed away from the coastline.	Title holder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The MSS will not impact the population stability of any flora or fauna within the area of operation. Mitigation plans are in place to reduce any impacts to as low as practicable.	2821
4362	Concerns about the lack of environmental reviews of seismic surveys at necessary scales to assess, mitigate and monitor impacts.	The titleholder has undertaken a thorough analysis and assessment of all relevant literature to inform its decisions. The titleholder responded providing links to large scale studies on seismic undertaken in Australian waters and offered to provide individual with impact assessments when they became available.	1389
4363	Stakeholder noted opposition to the harmful effects on marine life and the pristine coast.	The titleholder provided information on identifying potential impacts and risks and putting mitigations in place such as, conducting survey during time of year marine mammals are less likely to be in area, reducing sound source to lowest setting and reducing number of times	786

Feedback ID	Objection or Claim Summary	Titleholder Response	Event ID
		activated, implementing marine mammal and fish monitoring programs, exclusion zones, following strict NOPSEMA guidelines. Provided link to PEIRA and document library on website.	
4364	Concern about the future of ocean health for children and sea life, including whale children.	Titleholder responded in Event ID: 1416, describing CGG's commitment to safeguarding marine mammals, the assessment process, regulations and measures currently in place. The stakeholder was provided with consultation information and invited to engage.	1410
4200	Stakeholder noted that dolphins use clicks and whistles as a complex form of communication, with observations of bottlenose dolphins using distinctive whistles for individuals within their pod, similar to how humans use names. Claimed that blasts from seismic testing could cause temporary and permanent hearing loss in dolphins and whales, citing instance near Peru, where some 900 long-beaked common dolphins and black porpoises washed up dead along a stretch of beach, shown to have had fractures in their ear bones and signs of bleeding from their middle ears. - LINK provided.	"A Preliminary Environmental Impact and Risk Assessment is undertaken during an impact assessment process (our PEIRA is available here). The PEIRA is compiled to identify environmental values and sensitivities, to provide an evaluation of the environmental impacts and risks associated with the project. The PEIRA is then used to inform the environmental assessment documents, and as above, the environmental impact and risk treatments, which are being uploaded in the document library. The draft Environmental Impact Assessments are in the document library now, for review and feedback. For transparency we are uploading the entire documents, however if there is a concern you would like a summary or specific information on, please let us know. Further information on marine mammal treatments are covered below in response to concern 6."	2886
4493	Claims that CGG's proposed seismic activities contribute both directly and indirectly to broader threats faced by Southern Right Whales, including industrialisation of the marine environment, climate change, and pollution or contamination from vessel discharges.	Broader threats such as climate change and industrialisation fall outside the scope of the Environment Plan, as outlined in the response to Statements 156–166. The EP assesses only the environmental risks directly associated with the proposed activity. These risks are evaluated in the D Appendices, which demonstrate that any residual risks have been reduced to an acceptable level.	EVT352