

Environment Plan Summary

S4710RH734290



Environment Plan Summary

Enterprise 1 Offshore Operations

Review record

Revision	Date	Reason for issue	Reviewer	Consolidator	Approver
B	13/5/2024	Beach internal review	CKI, SDO, TLA, CNA		
0	31/5/2024	Issued for use - submission to DEECA		CKI	LDI
1	17/6/2024	Issued for use - submission to DEECA	CKI	CKI	LDI <i>Lisa De Julius</i>

Review due	Review frequency
17/6/2029	5 years

For internal use and distribution only. Subject to employee confidentiality obligations. Once printed, this is an uncontrolled document unless issued and stamped Controlled Copy or issued under a transmittal.

THE THREE WHATS

What can go wrong?

What could cause it to go wrong?

What can I do to prevent it?

18/06/2024

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

Contents

1.	Introduction	5
1.1	Scope of this Document	5
1.2	Nominated Titleholder and Liaison Person	5
2.	Activity Description	7
3.	Existing Environment	11
3.1	Physical Environment	11
3.2	Oceanography	11
3.3	Biological Environment	13
3.4	Conservation Values and Sensitivities	22
3.5	Socio-economic Environment	23
3.6	Cultural Heritage	24
3.7	Native Title	25
4.	Stakeholder Consultation	26
4.1	Introduction	26
4.2	Methodology to Identify Relevant Persons or Organisations	26
4.3	Relevant persons or organisations	28
4.4	Summary of Consultation	28
5.	Impact and Risk Assessment Methodology	30
5.1	Beach Energy Risk Assessment Methodology	30
5.2	Establish the scope, context and criteria	31
5.3	Risk Assessment Register	35
5.4	Monitor and review	35
6.	Impact and Risk Assessment	36
7.	Implementation Strategy	38
7.1	Operations Excellence Management System	38
7.2	Partners, Leadership and Authority	40
7.3	People, Capability and Health	41
7.4	Asset Management – Monitoring and Assurance Process	41
7.5	Emergency and Security Management Standard	41
7.6	Incident Management	43
8.	References	45
9.	Document Information and History	47

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Figures

<i>Figure 1: Enterprise 1 wellsite location</i>	8
<i>Figure 2: Location of licence VIC/L007745(V) and the Enterprise reservoir</i>	9
<i>Figure 3: Enterprise well regulatory interfaces</i>	10
<i>Figure 4: Photos of rocky shorelines and beaches within the licence area</i>	13
<i>Figure 5: Beach risk assessment process</i>	31
<i>Figure 6: Beach Energy Risk Matrix</i>	32
<i>Figure 7: The Hierarchy of Controls</i>	34
<i>Figure 8: The Beach OEMS</i>	39
<i>Figure 9: Beach Crisis and Emergency Management Framework</i>	42

Tables

<i>Table 1: Titleholder and Liaison Persons</i>	6
<i>Table 2: VIC/L007745(V) licence area coordinates</i>	7
<i>Table 3: Birds that may occur within the licence area</i>	15
<i>Table 4: EPBC Act Status Definitions</i>	18
<i>Table 5: PMST Database Key</i>	18
<i>Table 6: Cetaceans that may occur within the licence area</i>	19
<i>Table 7: Pinnipeds that may occur within the licence area</i>	20
<i>Table 8: Fish that may occur within the licence area³</i>	20
<i>Table 9: Marine reptiles that may occur within the licence area</i>	22
<i>Table 10: Typical impacts and risks associated with offshore wellhead and pipeline operations</i>	36
<i>Table 11: Beach OEMS Elements and Standards</i>	39

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Acronym / Abbreviation	Definition
AH Act	Victorian <i>Aboriginal Heritage Act 2006</i>
ALARP	As Low As Reasonably Practicable
ASX	Australian Stock Exchange
DELWP	Victorian Department of Environment, Land, Water and Planning (Vic)
DAWE	Department of Agriculture, Water and the Environment (Cth) (former)
DEECA	Department of Energy, Environment and Climate Action
EMAC	Easter Maar Aboriginal Corporation
EMP	Environmental Management Plan
EP	Environment Plan
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
HSE	Health Safety and Environment
MNES	Matters of National Environmental Significance
OEMS	Operations Excellence Management System
OGP	Otway Gas Plant
OPGGS	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2010</i> and associated Regulations (2021)
Petroleum Act	<i>Petroleum Act 1998</i>
PMST	Protected Matters Search Tool
RAP	Registered Aboriginal Party
RNTBC	Registered Native Title Bodies Corporate
TEC	Threatened Ecological Community

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

1. Introduction

The Enterprise 1 exploration well, located 4 km west of Port Campbell and 200 km southwest of Melbourne (Figure 1), was successfully drilled in December 2020 and encountered commercial quantities of hydrocarbon. As a result of this success, Beach proceeded to complete the well as a production well. The well is connected to the Otway Gas Plant (OGP) via a new gas pipeline, new facilities at the Enterprise 1 well site and minor modifications at the OGP.

The construction phase of work is referred to as 'Otway Nearshore Phase 2 Project' (ONP2 Project). The construction of the facilities at the wellsite and OGP and the pipeline are expected to be completed by June 2024. Gas production from the Enterprise reservoir is expected to commence shortly thereafter.

This Environment Plan (EP) describes the environment (physical, ecological and socio-economic) of the offshore petroleum production licence VIC/L007745(V) in which the Enterprise reservoir is located (Figure 2) in order to satisfy the requirements of the *Victorian Offshore Petroleum and Greenhouse Gas Storage (OPGGs) Act 2010* and associated *OPGGs Regulations 2021*.

1.1 Scope of this Document

In accordance with Regulation 13E (4) of the Victorian OPGGS Regulations, this EP Summary includes details about the location and nature of the activity, the receiving environment, consultation undertaken, the environmental impacts, risks and associated control measures, monitoring and environmental performance measures and emergency response arrangements.

1.2 Nominated Titleholder and Liaison Person

Beach Energy (Operations) Limited (Beach) is the titleholder and operator of the offshore petroleum production licence VIC/L007745(V) and the associated Petroleum Special Drilling Authority PSDA00746.

The current joint venture parties and interest holdings for the Enterprise Development and the title holder liaison person are provided in Table 1.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Table 1: Titleholder and Liaison Persons

Contact	Details	
Petroleum Title		
VIC/L007745(V) and PSDA007746(V)	Titleholder (60%) and Operator	Beach Energy (Operations) Limited
	Business address	Level 8, 80 Flinders Street ADELAIDE, South Australia, 5000
	Telephone number	(08) 8338 2833
	Fax number	(08) 8338 2336
	Email address	info@beachenergy.com.au
	Australian Company Number	ACN 007 845 338
	Australian Business Number	ABN 66 007 845 338
	Titleholder (40%)	OGOG (Otway) Pty Ltd
	Australian Company Number	ACN 628 946 752
	Titleholder Liaison Person	
Kevin Galea General Manager Victoria	Business address	Level 15, 150 Lonsdale Street MELBOURNE VIC 3000
	Telephone	Phone: (03) 9110 2166
	Email	kevin.galea@beachenergy.com.au

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

2. Activity Description

The licence area VIC/L007745(V) is located within Victorian coastal waters off Port Campbell (Figure 1 and Figure 2). At its widest point, it is 7 km east to west, and extends seaward 3 nm (5.5 km). The coordinates of the licence area are presented in Table 2.

Table 2: VIC/L007745(V) licence area coordinates

Location	Latitude	Longitude
NW Corner	38° 36' 28" S	142° 57' 13" E
NE Corner	38° 36' 29" S	142° 57' 20" E
SE Corner	38° 36' 38" S	142° 57' 18" E
S Corner (a)	38° 36' 38" S	142° 57' 13" E
S Corner (b)	38° 36' 38" S	142° 57' 13" E
SW Corner	38° 36' 38" S	142° 57' 11" E

The activity is gas flow (production) from the Enterprise gas field through an existing well bore. The well bore for the Enterprise 1 well was drilled sub-surface (beneath the seabed) and there is no wellhead or pipeline on the seabed. As such, there will be no physical or vessel-based operations or maintenance activities in the marine environment within VIC/L007745(V).

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290



Figure 1: Enterprise 1 wellsite location

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

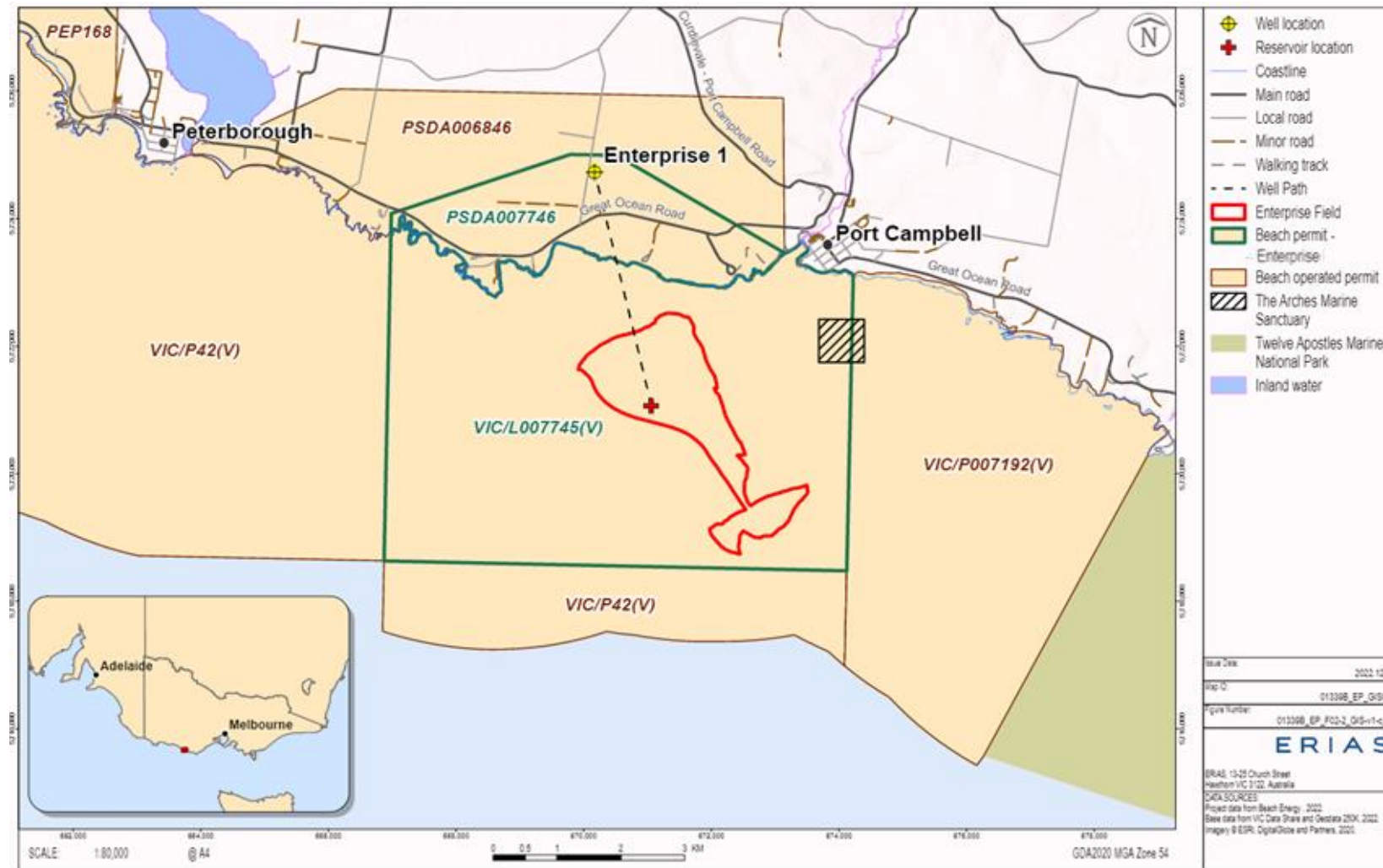


Figure 2: Location of licence VIC/L007745(V) and the Enterprise reservoir

Released on 17/6/2024 - Revision 1 - Issued for use – submission to DEECA

Document Custodian is Operations

Beach Energy Limited: ABN 20 007 617 969

This document is for internal use only. Once printed, this is an uncontrolled document unless issued and stamped Controlled Copy or issued under a transmittal.

Based on template: INT-BPMS-PRJ-TMP-18282217-R0-Project Execution Plan Template - Issued for Use _09/06/2020

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

No new infrastructure will be installed within the offshore licence area; only the pre-existing well bore is present subsurface (refer Figure 3).

Well interventions may take place during the operations phase of Enterprise 1. A well intervention operation is defined as an operation where work is performed on a production well that alters the state of the well and performs diagnostic testing or changes the production regime of the well. Over the life of the well, the workover intervention may occur once every 5 to 10 years.

Well interventions will be undertaken at the wellsite located onshore within PSDA007746 and are therefore described in the Enterprise Operation Plan submitted for assessment and acceptance in accordance with the requirements of the *Petroleum Act 1998* (Petroleum Act) and associated *Petroleum Regulations 2021* (Petroleum Regulations).

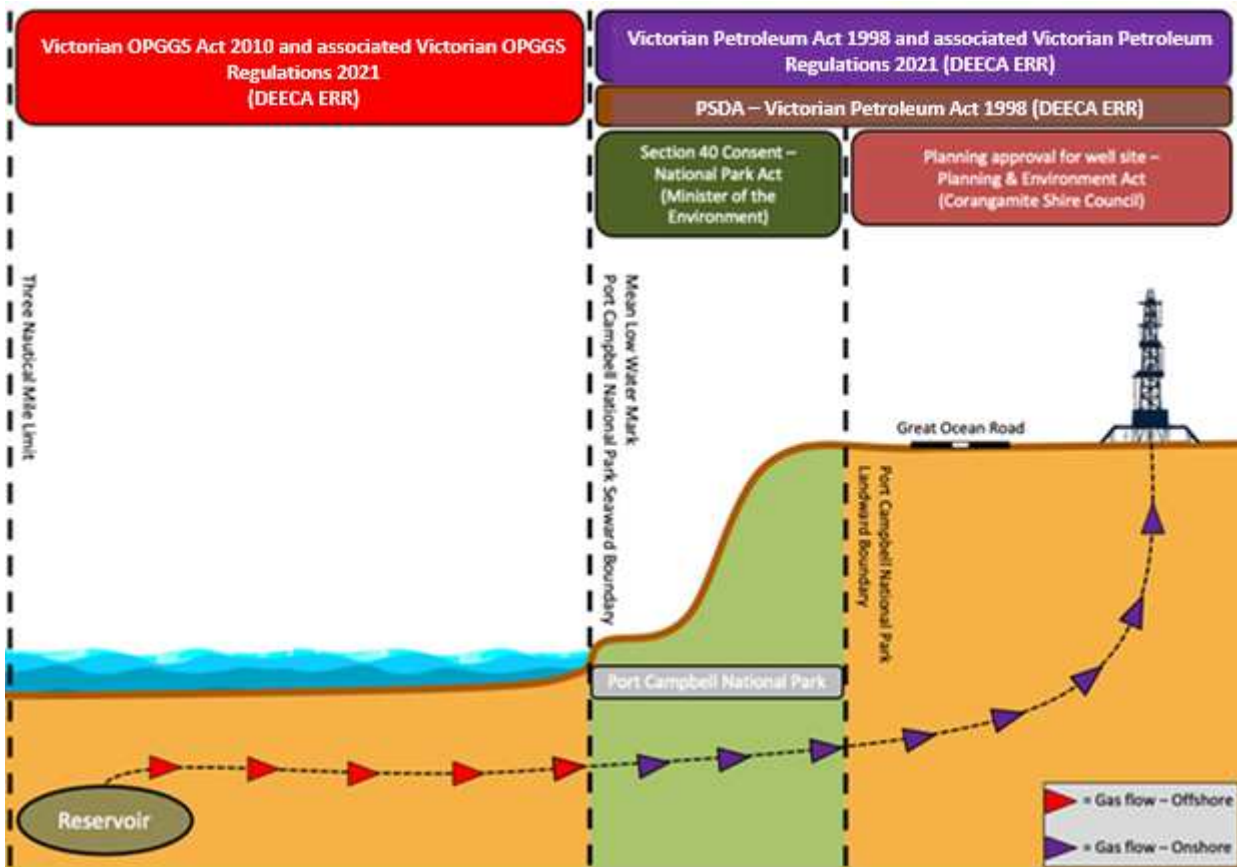


Figure 3: Enterprise well regulatory interfaces

3. Existing Environment

The environment described in this chapter is the marine environment within licence area VIC/L007745(V).

The key sources of information used in developing this chapter include the:

- EPBC Act PMST database (DAWE (now DCCEEW), 2022);
- Species Profile and Threats (SPRAT) Database (DCCEEW, 2022);
- South-east Marine Region Profile (Commonwealth of Australia, 2015);

3.1 Physical Environment

3.1.1 Climate and Meteorology

The licence area is typical of a cool temperate region with cold, wet winters and warm dry summers. The regional climate is dominated by sub-tropical high-pressure systems in summer and sub-polar low-pressure systems in winter.

3.1.2 Temperature and Rainfall

Average air temperatures recorded at Warrnambool airport (23 km northwest of the licence area, but the closest point for a Bureau of Meteorology [BoM] weather station (number 090186)) for 1999-2021 range from 13.4°C to 24.7°C (BoM, 2022), with the lowest temperature in July and highest temperature in January. Mean annual rainfall for the period 1999-2021 is 735.5 mm, with the highest rainfall totals falling in June, July and August (BoM, 2022).

3.1.3 Winds

The licence area is located on the northern edge of the westerly wind belt known as the Roaring Forties. In winter, when the subtropical ridge moves northwards over the Australian continent, cold fronts generally create sustained west to south-westerly winds and frequent rainfall in the region (McInnes and Hubbert, 2003). In summer, frontal systems are often shallower and occur between two ridges of high pressure, bringing more variable winds and rainfall.

3.2 Oceanography

3.2.1 Tides and Currents

Bass Strait has a reputation for strong tidal currents, which are primarily driven by tides, winds and density-driven flows. The tides of central Bass Strait are semi-diurnal with the dominant large-scale water movements due to the astronomical tide (Jones, 1980). There is a slow easterly flow of waters in Bass Strait and a large anti-clockwise circulation (Commonwealth of Australia, 2015). The three key water currents that influence Bass Strait, and therefore the licence area, are the Leeuwin Current, East Australian Current and the Bass Strait Cascade.

3.2.2 Waves

The Otway coast, in which the licence area is located, has a predominantly south-westerly aspect and is highly exposed to swell from the Southern Ocean. There are two principal sources of wave energy in the Otway Basin:

- from the westerly swell from the Great Australian Bight and Southern Ocean; and
- from locally generated winds, generally from the west and east.

The Otway coast is fully exposed to long period 13 second average south-westerly swell from the Southern Ocean as well as periodic shorter 8 second average period waves from the east. Wave heights from these winds generally range from 1.5 m to 2 m, although waves heights to 10 m can occur during storm events and a combination of wind forcing against tidal currents can cause greater turbulence. The largest waves are associated with eastward-moving low pressure and frontal systems that cross every 4 to 6 days in winter.

3.2.3 Water Temperature

The temperature of surface waters in the licence area ranges from approximately 10-18°C across the year.

3.2.4 Water Quality

The licence area is characterised by high wave energy and cold temperature waters subject to upwelling events (Bonney upwelling) around the continental shelf margin. Significant upwelling of colder, nutrient-rich deep water during summer can cause sea surface temperatures to decrease by 3°C compared with offshore waters (Butler et al, 2002).

Weather conditions in the coastal environment around Port Campbell are known to influence offshore hydrodynamic conditions and are a driver of sediment dynamics, impacting benthic and pelagic habitats and changing water column turbidity. Wave-driven sediment resuspension generates high turbidity levels within coastal zones, commonly exceeding 50 mg/L (Larcombe et al, 1995, Whinney, 2007), but coastal communities appear generally well adapted to deal with these extrinsic stresses.

3.2.5 Seabed

The water depths within the licence area range from 0 m to 50 m.

The Otway shelf is comprised of Miocene limestone below a thin veneer of younger sediments. Boreen et al (1993) examined 259 sediment samples collected over the Otway Basin and the Sorell Basin of the west Tasmanian margin. Based on assessment of the sampled sediments the authors concluded the Otway continental margin is a swell-dominated, open, cool-water, carbonate platform. A conceptual model was developed which divided the Otway continental margin into five depth-related zones – shallow shelf, middle shelf, deep shelf, shelf edge and upper slope. The licence area is situated on the shallow shelf zone. In the shallow shelf are exhumed limestone substrates that host dense encrusting mollusc, sponge, bryozoan and red algae assemblages.

3.2.6 Shorelines

The shoreline adjacent to the licence area is dominated by tall, vertical rocky cliffs with isolated sandy beaches near the 'London Bridge' coastal rock formation and in Port Campbell Bay. Figure 4 illustrates the rocky coastline within parts of the licence area.



Rocky cliffs to the immediate east of Port Campbell



Port Campbell bay



Rocky cliffs near The Arch formation



Sandy beach near the London Bridge formation

All photos courtesy of G. Pinzone (Aventus Consulting).

Figure 4: Photos of rocky shorelines and beaches within the licence area

3.3 Biological Environment

The key source of information for the species that may be present in the licence area is the PMST database.

3.3.1 Benthic Assemblages

The dominant benthic habitat throughout the licence area is rocky (limestone) reef interspersed with reef/sediment areas. Boreen et al (1993) reported that the benthic communities associated with hard limestone substrates were comprised of sponges, encrusting and branching coralline algae, peysonellid algae, Bryozoa, benthic forams, robust sarpullds, brachiopods, bivalves, gastropods, fleshy red algae and kelp.

A benthic survey of inner shelf sediments in the vicinity of the Minerva Gas Field development, which occurs within the licence area, found the seafloor was composed of coarse, well-sorted sand (Currie and Jenkins, 1994). This survey identified 196 species and a total of 5,035 individuals comprised of 63% crustaceans, 15% polychaetes, 8% molluscs and 5% echinoderms.

Demersal fish are likely to be associated with carbonate sands on the inner shelf. The distribution of fish species is governed by biologically formed habitat structure as well as by food. Fish assemblages typically begin to change at depths greater than 20 m, with the loss of the kelp associated wrasses and leatherjackets, and the appearance of deeper water fishes.

3.3.2 Plankton

The seasonal Bonney Coast upwelling contributes to locally productive pelagic habitats that exhibit a range of zooplankton such as copepods, decapods, krill and gelatinous zooplankton. Of particular importance in the region is the coastal krill, *Nyctiphanes australis*, which swarms throughout the water column of continental shelf waters primarily in summer and autumn, feeding on microalgae and providing an important link in the blue whale food chain.

Plankton distribution is dependent upon prevailing ocean currents including the East Australia Current, flows into and from Bass Strait and Southern Ocean water masses. Populations in the licence area are expected to be highly variable both spatially and temporally and are likely to comprise characteristics of tropical, southern Australian, central Bass Strait and Tasman Sea populations.

3.3.3 Marine Invertebrates

Studies by the Museum of Victoria (Wilson and Poore, 1987; Poore et al, 1985) 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. 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. Rocky reefs present in the licence area are known to provide habitat for species such as southern rock lobster.

3.3.4 Marine Flora

The subtidal and intertidal rocky reefs of Bass Strait are understood to have a high diversity of macroalgae. Variation exists among rocky reefs depending on the level of exposure to waves, the rock type, its weathering and the presence of rock pools, crevices and boulders, which all in turn determine the composition of marine fauna. In the nearshore environment of the licence area, seaweed forests are made up of a large brown kelp. In these environments the marine plants attach themselves to solid structures and extend their blades into the waters reaching toward the sunlight. Together the plants form a dense canopy of blades blocking out light and shading the surface of the solid substrate allowing for smaller species of algae to form.

3.3.5 Birds

Table 3 lists the bird species identified in the EPBC Act PMST database (search undertaken on 12 July 2022) that may occur in the licence area. This includes 29 true seabirds and 32 true shorebirds.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Table 3: Birds that may occur within the licence area ¹

Risk Management and Hazard Control	Risk Management and Hazard Control	EPBC Act Status			BIA within the licence area?	Recovery Plan in place?
		Listed threatened species	Listed migratory species	Listed marine species		
True Seabirds						
Albatross						
<i>Diomedea antipodensis</i>	Antipodean albatross	V	Yes	Yes	F	
<i>Diomedea epomophora (sensu stricto)</i>	Southern royal albatross	V	Yes	Yes	-	
<i>Diomedea exulans (sensu lato)</i>	Wandering albatross	V	Yes	Yes	F	Generic RP in place for all albatross in Australia, + AS for all albatross
<i>Diomedea sanfordi</i>	Northern royal albatross	E	Yes	Yes	-	
<i>Phoebastria fusca</i>	Sooty albatross	V	Yes	Yes	-	
<i>Thalassarche bulleri</i>	Buller's albatross	V	Yes	Yes	F	
<i>Thalassarche bulleri platei</i>	Northern Buller's albatross	V	-	-	-	
<i>Thalassarche carteri</i>	Indian yellow-nosed albatross	V	Yes	Yes	F	
<i>Thalassarche cauta</i>	Shy albatross	E	Yes	Yes	F	
<i>Thalassarche chrysostoma</i>	Grey-headed albatross	E	Yes	Yes	-	
<i>Thalassarche impavida</i>	Campbell albatross	V	Yes	Yes	F	
<i>Thalassarche melanophris</i>	Black-browed albatross	V	Yes	Yes	F	
<i>Thalassarche salvini</i>	Salvin's albatross	V	Yes	Yes	-	
<i>Thalassarche steadi</i>	White-capped albatross	V	Yes	Yes	-	
<i>Thalassarche sp. Nov.</i>	Pacific albatross	V	-	Yes	-	
Petrels						
<i>Halobaena caerulea</i>	Blue petrel	V	-	Yes	-	CA
<i>Macronectes giganteus</i>	Southern giant petrel	E	Yes	Yes	-	Generic RP and AS for giant petrels

¹ Refer Table 4 for EPBC Act Status Definition and Table 5 for PMST Database Key

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Risk Management and Hazard Control	Risk Management and Hazard Control	EPBC Act Status			BIA within the licence area?	Recovery Plan in place?
		Listed threatened species	Listed migratory species	Listed marine species		
<i>Macronectes halli</i>	Northern giant petrel	V	Yes	Yes	-	
<i>Pterodroma leucoptera leucoptera</i>	Gould's petrel	E	-	-	-	RP
<i>Pelecanoides urinatrix</i>	Common diving petrel	-	-	Yes	F	-
<i>Pterodroma mollis</i>	Soft-plumaged petrel	V	-	Yes	-	CA
Other seabirds						
<i>Ardenna carneipes</i>	Flesh-footed shearwater	-	Yes	Yes	-	-
<i>Ardenna grisea</i>	Sooty Shearwater	-	Yes	Yes	-	-
<i>Ardenna pacifica</i>	Wedge-tailed Shearwater	-	Yes	Yes	F	-
<i>Catharacta skua</i>	Great skua	-	-	Yes	-	-
<i>Eudyptula minor</i>	Little penguin	-	-	Yes	-	-
<i>Haliaeetus leucogaster</i>	White-bellied sea-eagle	-	-	Yes	-	-
<i>Pachyptila turtur</i>	Fairy prion	-	-	Yes	-	-
<i>Pachyptila turtur subantarctica</i>	Fairy prion (southern)	V	-	-	-	CA
True shorebirds						
<i>Actitis hypoleucos</i>	Common sandpiper	-	Yes	Yes	-	-
<i>Anthochaera phrygia</i>	Regent honeyeater	CE	-	-	-	CA, RP
<i>Apus pacificus</i>	Fork-tailed swift	-	Yes	Yes	-	-
<i>Ardea ibis</i>	Cattle egret	-	-	Yes	-	-
<i>Botaurus poiciloptilus</i>	Australasian bittern	E	-	-	-	CA
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	-	Yes	Yes	-	-
<i>Calidris canutus</i>	Red knot	E	Yes	Yes	-	CA
<i>Calidris ferruginea</i>	Curlew sandpiper	CE	Yes	Yes	-	CA
<i>Calidris melanotos</i>	Pectoral sandpiper	-	Yes	Yes	-	-

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Risk Management and Hazard Control	Risk Management and Hazard Control	EPBC Act Status			BIA within the licence area?	Recovery Plan in place?
		Listed threatened species	Listed migratory species	Listed marine species		
<i>Callocephalon fimbriatum</i>	Gang-gang cockatoo	E	-	-	-	CA
<i>Chalcites osculans</i>	Black-eared cuckoo	-	-	Yes	-	-
<i>Charadrius leschenaultii</i>	Greater sand plover	V	Yes	Yes	-	CA
<i>Falco hypoleucos</i>	Grey falcon	V	-	-	-	CA
<i>Hirundapus caudacutus</i>	White-throated needletail	V	Yes	Yes	-	CA
<i>Gallinago hardwickii</i>	Latham's snipe	-	Yes	Yes	-	-
<i>Lathamus discolor</i>	Swift parrot	CE	-	Yes	-	CA, RP
<i>Limosa lapponica</i>	Bar-tailed godwit	-	Yes	Yes	-	-
<i>Limosa lapponica baueri</i>	Nunivak bar-tailed godwit	V	-	-	-	CA
<i>Merops ornatus</i>	Rainbow bee-eater	-	-	Yes	-	-
<i>Myiagra cyanoleuca</i>	Satin flycatcher	-	Yes	Yes	-	-
<i>Motacilla flava</i>	Yellow wagtail	-	Yes	-	-	-
<i>Neophema chrysogaster</i>	Orange-bellied parrot	CE	-	Yes	-	RP
<i>Numenius madagascariensis</i>	Eastern curlew	CE	Yes	Yes	-	CA
<i>Neophema chrysostoma</i>	Blue-winged parrot	-	-	Yes	-	-
<i>Phalacrocorax fuscescens</i>	Black-faced cormorant	-	-	Yes	-	-
<i>Rhipidura rufifrons</i>	Rufous fantail	-	Yes	Yes	-	-
<i>Rostratula australis</i>	Australian painted snipe	E	-	Yes	-	CA
<i>Sterna (Sternula) albifrons</i>	Little tern	-	Yes	Yes	-	-
<i>Sterna (Sternula) nereis nereis</i>	Australian fairy tern	V	-	-	-	CA
<i>Thinornis cucullatus</i>	Hooded plover	-	-	Yes	-	-
<i>Thinornis cucullatus cucullatus</i>	Hooded plover (eastern)	V	-	Yes	-	CA

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Risk Management and Hazard Control	Risk Management and Hazard Control	EPBC Act Status			BIA within the licence area?	Recovery Plan in place?
		Listed threatened species	Listed migratory species	Listed marine species		
<i>Tringa nebularia</i>	Common greenshank	-	Yes	Yes	-	-

Table 4: EPBC Act Status Definitions

Definitions	
Listed threatened species:	A native species listed in Section 178 of the EPBC Act as either extinct, extinct in the wild, critically endangered, endangered, and vulnerable or conservation dependent.
Listed migratory species:	A native species that from time to time is included in the appendices to the Bonn Convention and the annexes of JAMBA, CAMBA and ROKAMBA, as listed in Section 209 of the EPBC Act.
Listed marine species:	As listed in Section 248 of the EPBC Act.

Table 5: PMST Database Key

Key		
EPBC Act status (August 2022)	CD	Conservation Dependent
	V	Vulnerable
	E	Endangered
	CE	Critically endangered
BIA (Biologically Important Area)	A	Aggregation
	B	Breeding
	D	Distribution (i.e., presence only)
	F	Foraging
	FFR	Foraging, feeding or related behaviour
	M	Migration
	R	Roosting
Recovery plans	AS	Action Statement
	CA	Conservation Advice
	CMP	Conservation Management Plan
	RP	Recovery Plan

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

3.3.6 Cetaceans

Table 6 lists cetaceans identified in the EPBC Act PMST database (search undertaken on 12 July 2022) that may occur in the licence area, which includes eight whale and six dolphin species.

Table 6: Cetaceans that may occur within the licence area²

Risk Management and Hazard Control	Risk Management and Hazard Control	Risk Management and Hazard Control			Risk Management and Hazard Control	Risk Management and Hazard Control
		Risk Management and Hazard Control	Risk Management and Hazard Control	Risk Management and Hazard Control		
Whales						
<i>Balaenoptera acutorostrata</i>	Minke whale	-	-	Yes	-	-
<i>Balaenoptera borealis</i>	Sei whale	V	Yes	Yes	-	CA
<i>Balaenoptera musculus</i>	Blue whale	E	Yes	Yes	-	RP
<i>Balaenoptera musculus brevicauda</i>	Pygmy blue whale	-	-	Yes	F, D	-
<i>Balaenoptera physalus</i>	Fin whale	V	Yes	Yes	-	CA
<i>Caperea marginata</i>	Pygmy right whale	-	Yes	Yes	-	-
<i>Eubalaena australis</i>	Southern right whale	E	Yes	Yes	M, known core range	CMP
<i>Megaptera novaeangliae</i>	Humpback whale	-	Yes	Yes	-	-
Dolphins						
<i>Delphinus delphis</i>	Common dolphin	-	-	Yes	-	-
<i>Grampus griseus</i>	Risso's dolphin	-	-	Yes	-	-
<i>Lagenorhynchus obscurus</i>	Dusky dolphin	-	Yes	Yes	-	-
<i>Orcinus orca</i>	Killer whale	-	Yes	Yes	-	-
<i>Tursiops aduncus</i>	Indian bottlenose dolphin	-	-	Yes	-	-
<i>Tursiops truncatus str.</i>	Bottlenose dolphin	-	-	Yes	-	-

² Refer Table 4 for EPBC Act Status Definition and Table 5 for PMST Database Key

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

3.3.7 Pinnipeds

Table 7 lists the two pinnipeds identified in the EPBC Act PMST database (search undertaken on 12 July 2022) that may occur in the licence area.

Table 7: Pinnipeds that may occur within the licence area³

Scientific name	Common name	EPBC Act Status			BIA within the licence area?	Recovery Plan in place?
		Listed threatened species	Listed migratory species	Listed marine species		
<i>Arctocephalus forsteri</i>	New Zealand fur-seal	-	-	Yes	-	-
<i>Arctocephalus pusillus</i>	Australian fur-seal	-	-	Yes	-	-

3.3.8 Fish

Table 8 lists fish species identified in the EPBC Act PMST database (search undertaken on 12 July 2022) that may occur in the licence area, which includes four shark species and 26 syngnathid species.

Table 8: Fish that may occur within the licence area³

Scientific name	Common name	EPBC Act Status			BIA within the licence area?	Recovery Plan in place?
		Listed threatened species	Listed migratory species	Listed marine species		
Oceanic						
<i>Carcharodon carcharias</i>	Great white shark	V	Yes	-	D	RP
<i>Galeorhinus galeus</i>	School shark	CD	-	-	-	-
<i>Isurus oxyrinchus</i>	Shortfin mako	-	Yes	-	-	-
<i>Lamna nasus</i>	Porbeagle	-	Yes	-	-	-
Pipefish, seahorses and seadragons						
<i>Heraldia nocturna</i>	Eastern upside-down pipefish	-	-	Yes	-	-
<i>Hippocampus abdominalis</i>	Big-bellied seahorse	-	-	Yes	-	-
<i>Hippocampus breviceps</i>	Short-head seahorse	-	-	Yes	-	-
<i>Histiogamphelus briggsii</i>	Brigg's crested pipefish	-	-	Yes	-	-
<i>Histiogamphelus cristatus</i>	Rhino pipefish	-	-	Yes	-	-
<i>Hypselognathus rostratus</i>	Knifesnout pipefish	-	-	Yes	-	-

³ Refer Table 4 for EPBC Act Status Definition and Table 5 for PMST Database Key

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Scientific name	Common name	EPBC Act Status			BIA within the licence area?	Recovery Plan in place?
		Listed threatened species	Listed migratory species	Listed marine species		
<i>Kaupus costatus</i>	Deepbody pipefish	-	-	Yes	-	-
<i>Leptoichthys fistularius</i>	Brushtail pipefish	-	-	Yes	-	-
<i>Lissocampus caudalis</i>	Australian smooth pipefish	-	-	Yes	-	-
<i>Lissocampus runa</i>	Javelin pipefish	-	-	Yes	-	-
<i>Maroubra perserrata</i>	Sawtooth pipefish	-	-	Yes	-	-
<i>Mitotichthys semistriatus</i>	Halfbanded pipefish	-	-	Yes	-	-
<i>Mitotichthys tuckeri</i>	Tucker's pipefish	-	-	Yes	-	-
<i>Notiocampus ruber</i>	Red pipefish	-	-	Yes	-	-
<i>Physodurus eques</i>	Leafy seadragon	-	-	Yes	-	-
<i>Phyllopteryx taeniolatus</i>	Common seadragon	-	-	Yes	-	-
<i>Pugnaso curtirostris</i>	Pugnose pipefish	-	-	Yes	-	-
<i>Solegnathus robustus</i>	Robust pipehorse	-	-	Yes	-	-
<i>Solegnathus spinosissimus</i>	Spiny pipehorse	-	-	Yes	-	-
<i>Stigmatopora argus</i>	Spotted pipefish	-	-	Yes	-	-
<i>Stigmatopora nigra</i>	Widebody pipefish	-	-	Yes	-	-
<i>Stipecampus cristatus</i>	Ringback pipefish	-	-	Yes	-	-
<i>Urocampus carinirostris</i>	Hairy pipefish	-	-	Yes	-	-
<i>Vanacampus margaritifer</i>	Mother-of-pearl pipefish	-	-	Yes	-	-
<i>Vanacampus phillipi</i>	Port Phillip pipefish	-	-	Yes	-	-
<i>Vanacampus poecilolaemus</i>	Longsnout pipefish	-	-	Yes	-	-

3.3.9 Reptiles

Table 9 lists marine reptile species identified in the EPBC Act PMST database (search undertaken on 12 July 2022) that may occur in the licence area.

Table 9: Marine reptiles that may occur within the licence area⁴

Scientific name	Common name	EPBC Act Status			BIA within the licence area?	Recovery Plan in place?
		Listed threatened species	Listed migratory species	Listed marine species		
<i>Caretta caretta</i>	Loggerhead turtle	E	Yes	Yes	-	Generic RP in place for all marine turtle species, +
<i>Chelonia mydas</i>	Green turtle	V	Yes	Yes	-	
<i>Dermochelys coriacea</i>	Leatherback turtle	E	Yes	Yes	-	

3.4 Conservation Values and Sensitivities

The following conservation features are not present in or immediately adjacent to the licence area.

- Australian Marine Parks;
- World Heritage Properties;
- National Heritage Places;
- Commonwealth Heritage Places;
- Wetlands of International Importance;
- Nationally Important Wetlands; and
- Key Ecological Features.

This section describes the conservation values and sensitivities within the licence area.

3.4.1 Threatened Ecological Communities (TECs)

TECs are protected as MNES under Part 13, Section 181 of the EPBC Act and provide wildlife corridors and/or habitat refuges for many plant and animal species. Listing a TEC provides a form of landscape or systems-level conservation (including threatened species). The Giant Kelp Marine Forests of Southeast Australia TEC has been identified as potentially occurring within the licence area and is described below.

Giant Kelp Marine Forests of Southeast Australia

The Giant Kelp Marine Forests of Southeast Australia TEC is mapped as 'may occur – substrate' in the coastal region in between Warrnambool and Cape Otway (DSEWPC, 2012a). According to the Approved Conservation Advice for Giant Kelp Marine Forests of Southeast Australia (DSEWPC, 2012b), giant kelp (*Macrocystis pyrifera*) is a large brown algae that grows on rocky reefs from the sea floor 8 m below sea level and deeper. Its fronds grow vertically toward the water surface. In cold temperate

⁴ Refer Table 4 for EPBC Act Status Definition and Table 5 for PMST Database Key

waters off southeast Australia over the last 40 years it has been progressively lost from its historical range (DSEWPC, 2012b). Giant kelp is the foundation species of this TEC, the kelp species itself is not protected, rather, it is communities of closed or semi-closed giant kelp canopy at or below the sea surface that are protected (DSEWPC, 2012b). Giant kelp is the largest and fastest growing marine plant. Its presence on a rocky reef adds vertical structure to the marine environment that creates significant habitat for marine fauna, increasing local marine biodiversity.

3.4.2 Victorian Protected Areas

The Arches Marine Sanctuary occurs within the licence area (see Figure 2).

The Arches Marine Sanctuary protects 45 hectares of ocean directly south of Port Campbell. It comprises of limestone formations, rocky arches and canyons and is a popular dive site. The sanctuary is ecologically significant, supporting habitats such as kelp forests and a diverse range of sessile invertebrates on the arches and canyons. These habitats support schools of reef fish, seals and a range of invertebrates such as lobster, abalone and sea urchins. The Arches Marine Sanctuary is managed in conjunction with the Twelve Apostles Marine Park under the Management Plan for Twelve Apostles Marine National Park and The Arches Marine Sanctuary (Parks Victoria, 2006).

3.5 Socio-economic Environment

3.5.1 Coastal Settlements

Port Campbell is the only town adjacent to the offshore licence area.

3.5.2 Offshore energy exploration and production

Petroleum exploration has been undertaken within the Otway Basin since the early 1960s. Gas reserves of approximately 2 trillion cubic feet (tcf) have been discovered in the offshore Otway Basin since 1995, with production from five gas fields using 700 km of offshore and onshore pipeline (DEDJTR, 2017). Up to 2015, the DEDJTR reports that 23 PJ of liquid hydrocarbons (primarily condensate) has been produced from its onshore and offshore basins, with 65 PJ remaining, while 85 PJ of gas has been produced (Victoria and South Australia), with 1,292 PJ remaining (DEDJTR, 2017). More recent exploration and production statistics for the Otway region are not available.

The gas pipelines that occur within the licence area are the Athena (previously Minerva) and Casino pipelines (operated by Cooper Energy) and the Thylacine/Geographe pipeline (operated by Beach). These are connected to various offshore gas production wells located outside the licence area.

3.5.3 Other Infrastructure

No other types of infrastructure exist within the licence area.

3.5.4 Tourism

Key areas of tourism in the region surrounding the licence area include land-based sightseeing from the Great Ocean Road and lookouts along that road, helicopter sightseeing, along with offshore diving and fishing.

3.5.5 Recreation

Recreational diving is popular in the region surrounding the licence area. Diving activity peaks during the rock lobster season with the bulk of recreational boats accessing the area launching from Boat Bay

at the Bay of Islands or Port Campbell. Surfing is also a popular activity, particularly at the wave break on the eastern edge of Port Campbell Bay.

3.5.6 Commercial Fisheries

The following Victorian commercial fisheries are licensed to fish in the licence area:

- Southern rock lobster;
- Eel, snapper and wrasse;
- Octopus;
- Shark (gummy, school, Port Jackson, dog, one-finned and broadnose); and
- Abalone.

3.5.7 Commercial Shipping

The South-east Marine Region is one of the busiest shipping regions in Australia and Bass Strait is one of Australia's busiest shipping routes. Commercial vessels use the route when transiting between ports on the east, south and west coasts of Australia, and there are regular passenger and cargo services between mainland Australia and Tasmania (NOO, 2004). The nearshore nature of the licence area is not as heavily shipped as parts of Bass Strait further south.

3.6 Cultural Heritage

Cultural heritage can be broadly defined as the legacy of physical science artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations. Cultural heritage includes tangible culture such as buildings, monuments, landscapes, books, works of art, and artefacts, as well as intangible culture such as folklore, traditions, language, and knowledge, and natural heritage including culturally significant landscapes.

This section describes the cultural heritage values broadly categorised as Aboriginal and European heritage within the licence area.

3.6.1 Aboriginal Heritage

Aboriginal people inhabited the southwest Victorian coast as is evident from the terrestrial sites of Aboriginal archaeological significance throughout the area. During recent ice age periods (the last ending approximately 14,000 years ago), sea levels were significantly lower and the coastline was a significant distance seaward of its present location, enabling occupation and travel across land that is now submerged.

Recognised coastal Aboriginal heritage sites include mostly shell middens, some stone artefacts, staircases cut into the coastal cliffs, and at least one burial site. The various shell middens within the PCNP and Bay of Islands Coastal Park are close to coastal access points that are, in some cases, now visitor access points (Parks Victoria, 1998).

Beach has engaged with the Eastern Maar Aboriginal Corporation (EMAC) since the inception of the Project with respect to cultural heritage matters. The previous phase of the Enterprise development was considered a high impact activity under the Aboriginal Heritage Regulations as the Enterprise well bore passes below an area of cultural heritage sensitivity. Beach worked with EMAC in development of

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

CHMP 16255 for the wellsite development and drilling activities. Subsequently, it was determined that the construction of the Enterprise pipeline required the development of CHMP 17780 which was approved in July 2022.

3.6.2 Maritime Archaeological History

Shipwrecks over 75 years old are protected within Commonwealth waters under the *Historic Shipwrecks Act 1976* (Commonwealth) and in Victorian waters under the *Victorian Heritage Act 1995* (Victoria).

The only shipwreck within the licence area is the Napier, which was wrecked in 1878. There are no historic shipwreck protection zones in or around the licence area. The licence area is outside of the nearshore boundary of the Great Ocean Road and Scenic Environs, listed on the National Heritage List and protected under the EPBC Act as a matter of national environmental significance.

3.7 Native Title

The National Native Title Tribunal Register of Native Title Applications and Determinations records that there is a determination (VCD2023001) extending seaward 100 m from the mean low-water mark of the coastline that forms the landward boundary of the VIC/L007745(V) permit area. The registered native title holders are the Eastern Maar people represented by the Eastern Maar Aboriginal Corporation (EMAC).

4. Stakeholder Consultation

4.1 Introduction

Beach has consulted relevant persons in the course of preparing this Environment Plan (EP) in accordance with applicable regulations, case law, guidelines, and relevant Beach policies and standards.

Beach understands the purpose of consultation is to meet the objectives of the OPGGS Act. The OPGGS Act requires authority holders to inform its understanding of the environment, including people and communities, the heritage value of places, and their social and cultural features, which may be affected by the proposed activities in the EP, and therefore refine or change measures proposed to reduce impacts and risks to an acceptable level and As Low As Reasonably Practicable (ALARP).

Consultation was designed to ensure that relevant persons whose functions, interests or activities were identified, and provided sufficient information and a reasonable time period to allow them to make an informed assessment of the potential impacts of the EP activities.

Beach has provided sufficient information in different formats including detailed information sheets; Notice of Operations – Production; Beach’s corporate website content; Beach’s online consultation hub, [Engage Beach](#); and direct community consultation with Beach staff and local consultants engaged to support consultation activities, and a community information webinar. Relevant persons were advised of the purpose of consultation and provided multiple opportunities over a reasonable period to ask questions, raise concerns, discuss control measures, and make a submission.

Beach received minimal numbers of Enterprise Project submissions regarding the operations throughout the consultation period, which began in December 2021.

Consultation while preparing the EP has been completed and Beach believes it has met the relevant regulations, case law and guideline requirements. Beach has developed a Stakeholder Engagement Plan for Enterprise production that sets the approach to ongoing consultation for implementing the activities. Should concerns or feedback about adverse impacts from the EP activities be received after the EP has been accepted, Beach will assess the matters raised, and, where a further measure or control may be required, Beach will apply its Management of Change process.

4.2 Methodology to Identify Relevant Persons or Organisations

To ensure compliance with the regulations, case law and guidelines Beach developed a methodology to identify and consult with relevant persons and organisations for previously accepted EPs. Beach has reviewed and refined its methodology in line with NOPSEMA guidelines, recent case law, and applicable to the nature and scale of the activities in the EP. The primary identification focussed on any person or organisation whose functions, interests or activities may be affected by an activity carried out under the EP.

Following the [Santos NA Barossa Pty Ltd v Tipakalippa \[2022\] FCAFC 193](#) (appeal decision) case, Beach was the first offshore titleholder to receive acceptance of an offshore EP. Beach reviewed its methodology again after the [Cooper v NOPSEMA \(N0 2\) \[2023\] FCA 1158](#) case and had a further offshore EP accepted in December 2023. Beach continues to review and refine its methodology cognisant of relevant case laws and has done so for the EP.

Beach identified the relevant persons stakeholder list prior to beginning consultation. Beach understands consultation to be iterative and can be an opportunity to identify further relevant persons

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

throughout the project whose activities or interests may be affected by the project activities. As part of applying Beach's own community standards and relevant case law, Beach constantly reviews and adds to its relevant persons list. It does this by reviewing Beach's stakeholder engagement database (BeachConnect); undertaking desktop research and broad-based keyword searches using key words combined with place-based search terms; traditional and social media monitoring; and investigating known environmental concerns.

To identify further relevant persons, Beach also leverages off consultations being undertaken for the other Beach projects underway across Federal and State areas.

The Enterprise well is directionally drilled from onshore to offshore and does not intersect the marine environment at all. As such the flowing of gas from the reservoir through the subsurface well to the wellsite, the activities of which are defined in this EP summary, is of very limited nature and scale, therefore Beach understands there is no direct impact from the activities in the EP to relevant persons.

Approach to identifying First Nations peoples

Beach's Indigenous Participation Policy sets out commitments aimed at building positive, long term, trusting relationships with relevant Indigenous communities. In addition, Beach is cognisant of the NOPSEMA Consultation Guidelines and applicable case law and has applied these requirements in its approach to identifying and consulting with First Nations relevant persons.

Beach has assets in Victoria that have been in operation for many years. Since becoming the operator of those assets, Beach has been investing time to build honest and transparent relationships with the First Nations groups on whose traditional lands and waters Beach operates. Beach has consulted with relevant First Nations groups for various purposes including relationship building, agreement making, cultural heritage management plans and community development initiatives. Engagements have been led by Beach's Manager First Nations Engagement, a First Nations person who has completed formal studies in land and sea country management.

The Victorian *Aboriginal Heritage Act 2006* (AH Act) recognises a Registered Aboriginal Party (RAP) as the Traditional Owner Corporation appointed under the AH Act to manage and protect Aboriginal cultural heritage over their Country including coastal and onshore waters. The AH Act recognises RAPs as the primary guardians, keepers and knowledge holders of Aboriginal cultural heritage and the primary source of advice and knowledge on matters relating to Aboriginal places or objects in the appointed RAP region.

In March 2023, the Eastern Maar peoples gained formal recognition of their land rights in the first Victorian native title determination in a decade, with support from the Victorian Government.

Beach acknowledges the Eastern Maar Peoples as the Traditional Custodians of the lands and waters on which the Enterprise Project is located. 'Eastern Maar' is a name adopted by the people who identify as being from the eastern domain of the Maar speaking people or otherwise identify as Maar, Eastern Gunditjmara, Tjap Wurrung, Peek Whurrung, Kirrae Whurrung, Kuurn Kopan Noot and/or Yarro Waetch (Tooram Tribe), Djargud Wurrung, Gulidjan and/or Gadubanud amongst others. The Eastern Maar Aboriginal Corporation (EMAC) manages native title rights for the Eastern Maar Peoples. EMAC is a Recognised Native Title Body Corporate (RNTBC) under the Commonwealth *Native Title Act 1993*, registered as a corporation under the Commonwealth *Corporations (Aboriginal and Torres Strait Islanders) Act 2006*, and is also a RAP.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Beach has undertaken consultation with EMAC representatives since the inception of the Enterprise Project and has undertaken cultural heritage assessments for the Enterprise wellsite and pipeline with EMAC representatives and nominated cultural heritage specialist consultants. In December 2022, Beach commenced negotiating a Native Title agreement in relation to the Enterprise Project (PSDA007746) and that process was concluded between the Eastern Maar Native Title Holders, the State of Victoria and Beach in November 2023.

4.3 Relevant persons or organisations

Relevant persons or organisations were identified from the processes outlined above, have been issued the Notice of Operations, and provided other sufficient information and Enterprise Project updates.

Given the limited nature and scale of the activities set out in the EP and there being no disturbance in the marine environment, Beach has concluded there is no direct impact on relevant persons.

Nevertheless, Beach understands there will be general interest in the project from nearby landholders and other groups and while the activities outlined in the EP do not directly impact relevant persons, Beach includes these groups in its relevant persons for continuity of engagement. Interests of some relevant persons would include general concerns regarding emissions and climate change, this is covered by other emissions reporting requirements.

4.4 Summary of Consultation

In all Beach correspondence, Beach states its commitment to genuine consultation and encourages stakeholders to give feedback, seek further information or raise concerns. Notwithstanding Beach's approach and multiple communications over an extended period, Beach has received minimal responses to the Enterprise Project information sheet and Notice of Operations – Production, the updated versions of both were issued in November 2023. Ongoing low response levels were also received to general project updates. Since beginning consultation for the EP in December 2021, Beach has engaged in regular face-to-face meetings with the wellsite lease landholder, near neighbours and key stakeholder groups to ensure an opportunity for discussion and meets regularly with Corangamite Shire Council in person or online. In addition to this, Beach has sent direct emails and exchanged phone calls with key stakeholders and sent general updates to stakeholders as required.

Beach emailed a project update to the relevant person stakeholder list on 30 November 2023 (refer to the complete EP), which promoted a community information webinar being held on 12 December 2023. The email also pointed recipients to Beach's online consultation hub, Engage Beach, for further project information and another opportunity to consult. While only three people attended the webinar, the Enterprise Project pages on Engage Beach saw increased activity with 43 unique visitors and 51 views on the day the email was distributed. Since the Enterprise Project pages were launched in November 2023, the pages have had 90 unique visitors and 152 views.

Prior to the establishment of Beach's stakeholder database, BeachConnect, in September 2021, all consultation was recorded in the Beach consultation log. BeachConnect enables a more efficient and effective capture of consultation activity. BeachConnect includes stakeholder details, description of engagement, topics raised, and any follow up actions required.

At the time of submission of the EP, there were no outstanding requests for consultation, information, or unresolved matters in relation to operational activities at the Enterprise wellsite. Therefore, consultation for preparation of the EP has been completed.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

At the beginning of the project, Beach identified the relevant persons stakeholder list to begin consultation. Beach understands consultation to be iterative and can be an opportunity to identify further relevant persons throughout the project whose functions, interests or activities may be affected by the project activities. As part of applying Beach's own community standards and relevant case law, Beach constantly reviews and adds to its relevant persons list. It does this by reviewing BeachConnect; undertaking desktop research and broad-based keyboard searches using key words combined with place-based search terms; traditional and social media monitoring; and investigating known environmental concerns. Beach also leverages off its consultations being undertaken for the other Beach projects underway across Federal and State areas.

Should further consultation be sought by a relevant person or organisation, or new matters arise, they will be managed in accordance with the Enterprise production activity Stakeholder Engagement Plan.

5. Impact and Risk Assessment Methodology

The objective of the OPGGS Regulations is to *'provide for the elimination and minimisation, so far as is practicable, of the environmental hazards and risks involved in undertaking petroleum activities'*.

Regulation 15(3) of the OPGGS Regulations requires that an EP includes an evaluation of the environmental impacts and risks of the activity and to specify measures to ensure that they are reduced to as low as reasonably practical (ALARP).

5.1 Beach Energy Risk Assessment Methodology

Beach uses its Corporate Risk Management Framework as per the Risk Management Standard (BSTD 8.1, CDN/ID 18985348) to mitigate and manage risks for all its activities. The Corporate Risk Management Framework methodology is consistent with the Australian and New Zealand Standard for Risk Management (AS/NZS ISO 31000:2018, Risk Management – Principles and Guidelines). The Risk Management Standard is part of Element 8 – Risk Management and Hazard Control, a component of the Beach Operations Excellence Management System (OEMS) (see Chapter 7).

Figure 5 outlines the Beach risk assessment management process, with each step of this process described in this chapter. The Beach Energy Risk Matrix (Figure 6) is an important tool of the procedure and provides the framework for comprehensive assessment of risk to the business.

The Beach Energy risk matrix utilises 5 individual consequence categories consider risks to people, the environment, reputation, financial impacts, and legal ramifications. The 5 Beach consequence categories and the risks that they cover are as follows:

1. People – impact to Beach or contracting personnel
2. Environment – natural environment
3. Reputation – community safety, reputation/social licence, media and items of cultural significance
4. Financial – financial impact (e.g. due to loss of revenue, business interruption, asset loss etc.)
5. Legal - e.g., breach of law, prosecution or civil action.

The Beach consequence categories typically utilised for the purpose of environmental risk assessments are the Environment (physical and biological), Reputation (safety of members of the public, social licence and cultural heritage), Financial (costs to the business associated with socio-economic impacts) and Legal categories. Beach's Corporate Risk Management Framework requires the following steps to be implemented:

- identify the activities and the potential impacts associated with them;
- identify the sensitive environmental resources at risk within and adjacent to the licence area;
- identify the environmental consequences of each potential impact, corresponding to the maximum reasonable impact;
- identify the likelihood (probability) of occurrence of each potential environmental impact (i.e., the probability of the event occurring);
- identify applicable control measures; and
- assign a level of risk to each potential environmental impact using a risk matrix.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

In accordance with this framework, all risks must be reduced to a level that is considered to be ALARP (refer to Section 6.5.1 of the EP).

The application of the Beach risk assessment process to the environmental risk assessment processes supporting the preparation of environmental management plans is presented below.

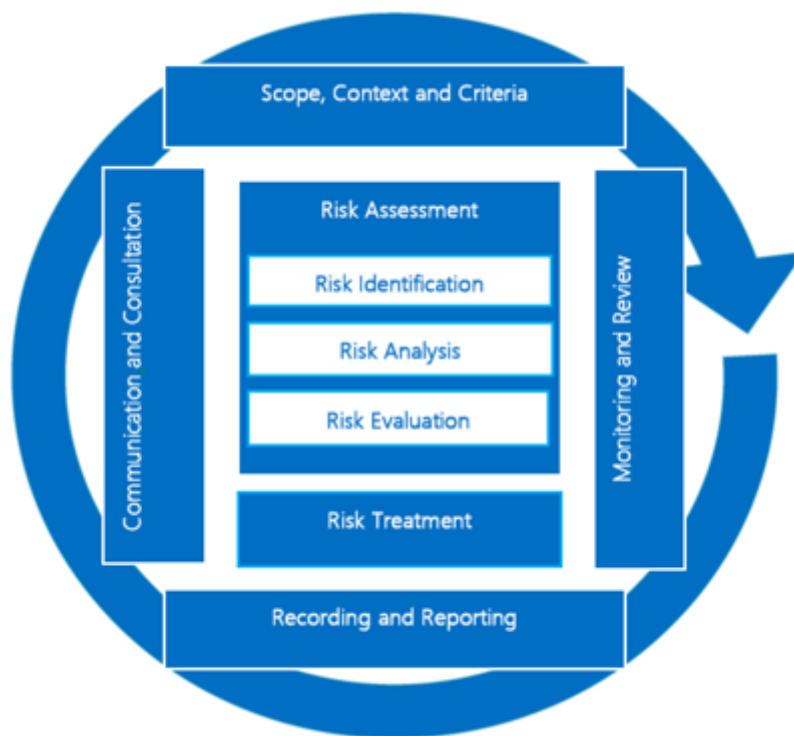


Figure 5: Beach risk assessment process

5.2 Establish the scope, context and criteria

The first step in the risk assessment process (outlined in Figure 6) is to establish the context. This involves:

- understanding the regulatory framework in which the activity takes place;
- defining the activities that will cause impacts and create risks;
- understanding the concerns of stakeholders and incorporating those concerns into the design of the activity where appropriate; and
- describing the environment in which the activity takes place.

Once the context has been established, the hazards of the activity can be identified, along with the impacts and risks of these hazards.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

CDN 14740489 Beach Risk Matrix & Risk Management Quick Reference Guide



Risk Matrix

CONSEQUENCE	CONSEQUENCE CATEGORY					LIKELIHOOD					
	PEOPLE	ENVIRONMENT	REPUTATION	FINANCIAL	LEGAL	A. Remote	B. Highly Unlikely	C. Unlikely	D. Possible	E. Likely	F. Almost Certain
	Impact to Beach or contracting personnel	Natural environment	Community safety, reputation/social licence, media, items of cultural significance.	Financial impact (e.g. due to loss of revenue, business interruption, asset loss etc.)	E.G. Breach of law, prosecution, civil action	<1% chance of occurring within the next year. Requires exceptional circumstances, unlikely event in the long-term future. Only occur as a 100-year event	>1% chance of occurring within the next year. May occur but not anticipated. Could occur years to decades	>5% chance of occurring within the next year. May occur but not for a while. Could occur within a few years	>10% chance of occurring within the next year. May occur shortly but a distinct probability it won't. Could occur within months to years	>50% chance of occurring within the next year. Balance of probability will occur. Could occur within weeks to months	99% chance of occurring within the next year. Impact is occurring now. Could occur within days to weeks
6 Catastrophic	Multiple fatalities >4 or severe irreversible disability to large group of people (>10)	Catastrophic offsite or onsite release or spill; long-term destruction of highly significant ecosystems; significant effects on endangered species or habitats; irreversible or very long-term impact	Multiple community fatalities; complete loss of social licence; prolonged negative national media; complete loss of items of cultural significance	> AUD\$500m	Prolonged and complex civil and/or regulatory litigation; potential jail terms and/or very high fines and/or damages claim	HIGH	HIGH	SEVERE	SEVERE	EXTREME	EXTREME
5 Critical	1-3 fatalities or serious irreversible disability (>30%) to multiple persons (<10)	Significant offsite or onsite release or spill; eradication or impairment of the ecosystem; significant impact on highly valued species or habitats; widespread long-term impact	Community fatality; significant loss of social licence; negative national media for 2 or more days; significant damage to items of cultural significance	>AUD\$100m & ≤ \$500m	Civil and/or regulatory litigation; potential significant fines and/or damages claim	MEDIUM	MEDIUM	HIGH	SEVERE	SEVERE	EXTREME
4 Major	Serious permanent injury/ illness or moderate irreversible disability (<30%) to one or more persons	Major Offsite or onsite release or spill; very serious environmental effects, such as displacement of species and partial impairment of ecosystem; major impact on highly valued species or habitats; widespread medium and some long-term impact	Serious permanent injury to community member; major damage to social licence; negative national media; major damage to items of cultural significance	>AUD\$10m & ≤ \$100m	Civil and/or regulatory litigation; potential major fine and damages claim	MEDIUM	MEDIUM	MEDIUM	HIGH	SEVERE	SEVERE
3 Serious	Serious reversible/ temporary injury/illness; Lost Time Injury >5 days or Alternate/Restricted Duties > 1 month	Minor offsite or onsite release or spill; serious short-term effect to ecosystem functions; serious impact on valued species or habitats; moderate effects on biological or physical environment	Serious reversible injury to community member; serious damage to social licence; negative state media; serious damage to items of cultural significance	>AUD\$1m & ≤ \$10m	Serious potential breach of law; report and investigation by regulator; possible prosecution or regulatory notice (e.g. improvement notice or equivalent), or possible civil litigation and serious damages claim	LOW	MEDIUM	MEDIUM	MEDIUM	HIGH	SEVERE
2 Moderate	Reversible temporary injury/ illness requiring Medical Treatment; Lost Time Injury ≤5 days or Alternate/Restricted Duties for ≤1 month	Event contained within site; short-term effects but not affecting ecosystem functions; some impact on valued species or habitats; minor short-term damage to biological and/or physical environment	Moderate injury to community member; moderate impact to social licence; negative local media; moderate damage to items of cultural significance	>AUD\$100,000 & ≤ \$1m	Potential Breach of law or non-compliance; inquiry by a regulator leading to Low-level legal issues; possible civil litigation and moderate damages claim	LOW	LOW	MEDIUM	MEDIUM	MEDIUM	HIGH
1 Minor	First Aid Injury/illness	Spill limited to release location; minor effects but not affecting ecosystem functions; no impact on valued species or habitats; low-level impacts on biological and physical environment	Minor injury to community member; public concern restricted to local complaints; minor damage to items of cultural significance	≤AUD\$100,000	Minor potential breach of law; not reportable to a regulator; on the spot fine or technical non-compliance	LOW	LOW	LOW	MEDIUM	MEDIUM	MEDIUM

Figure 6: Beach Energy Risk Matrix

Released on 17/6/2024 - Revision 1 - Issued for use – submission to DEECA

Document Custodian is Operations

Beach Energy Limited: ABN 20 007 617 969

This document is for internal use only. Once printed, this is an uncontrolled document unless issued and stamped Controlled Copy or issued under a transmittal.

Based on template: INT-BPMS-PRJ-TMP-1828217-R0-Project Execution Plan Template - Issued for Use _09/06/2020

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

For this activity, Beach has determined that impacts and risks are defined as follows:

- **Impacts** result from **planned events** – there will be consequences (known or unknown) associated with the event occurring. Consequences are described in the Beach Risk Matrix (Figure 6). Impacts are an inherent part of the activity. For example, noise will be generated at the wellsite during operations activities, which will have consequences for nearby fauna.
 - For impacts, only a consequence is assigned (likelihood is irrelevant given that the event does occur).
- **Risks** result from **unplanned events** – there may be consequences if an unplanned event occurs. Risks are not an inherent part of the activity. For example, a hydrocarbon spill from diesel stored at the wellsite may occur, but this is not a certainty. The risk of this event is determined by multiplying the consequence of the impact (using factors such as the type and volume of hydrocarbons and the nature of the receiving environment) by the likelihood of this event happening (which may be determined objectively or subjectively, qualitatively or quantitatively).
 - For risks, the consequence and likelihood are combined to determine the risk rating (refer Figure 6).
 - In the preparation of the EP, knowledge of the risks and impacts associated with Beach's other Otway offshore operations was used to establish a list of potential risks and impacts as identified in Table 10.

5.2.1 Demonstration of ALARP

The principle of ALARP requires a demonstration that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. The principle arises from the fact that infinite time, effort, and money could be spent attempting to reduce an impact or risk to zero. Beach Energy's Risk Management Procedure recognises that when further controls are required to modify a risk, the selection of controls requires balancing the benefits of the activity against the cost and effort of risk treatment. In this case risk is considered to be reduced as far as practicable in the context of the proposed development and the receiving environments.

Demonstration of ALARP is an ongoing and iterative process and new risk reduction measures may be identified at any time, including during operations. All risks are subject to risk acceptance and within Beach the level of authority required to accept a risk is commensurate with the level of risk.

Beach Energy actively encourages recording and review of observations through its incident management system (CMO). Incidents and lessons learned within Beach Energy and from the wider industry are reviewed and utilised to identify new hazards and controls.

5.2.2 Risk Controls

Beach demonstrates ALARP, in part, by adopting the 'Hierarchy of Controls' philosophy (Figure 7) which ranks the types of controls in order of effectiveness. The Hierarchy of Controls is a system used across hazardous industries to minimise or eliminate exposure to hazards.

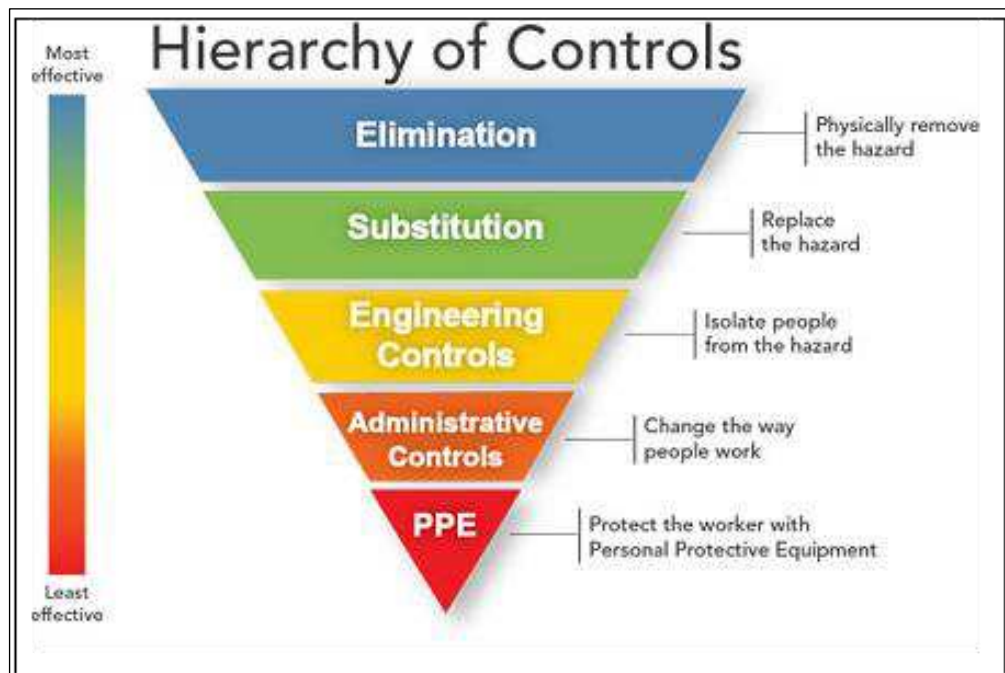


Figure 7: The Hierarchy of Controls

When deciding on whether to implement the proposed impact/risk reduction measure, the following issues are considered:

- Does it provide a clear or measurable reduction in risk?
- Is it technically feasible and can it be implemented?
- Will it be supported and utilised by site personnel?
- Is it consistent with national or industry standards and practices?
- Does it introduce additional risk in other operational / activity areas (e.g., will the implementation of an environmental risk reduction measure have an adverse impact on safety)?
- Will the change be effective, taking into account the:
 - Current level of risk with the existing controls;
 - Amount of additional risk reduction that the control will deliver;
 - Level of confidence that the risk reduction impact will be achieved; and
 - Resources, schedule and cost required to implement the control.

5.2.3 Residual Impact and Risk Levels

Lower-order Environmental Impacts and Risks

Lower-order environmental impacts and risks are defined as those where the environment or receptor is not formally managed, less vulnerable, widely distributed, not protected and/or threatened and there is confidence in the effectiveness of adopted control measures.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Impacts and risks are considered to be lower-order and ALARP when, using the Beach risk matrix (Figure 6), the impact consequence is rated as 'minor' or 'moderate' or risks are rated as 'low', 'medium' or 'high.' In these cases, applying 'good industry practice' is sufficient to manage the impact or risk to ALARP.

Higher-order Environmental Impacts and Risks

Higher-order environmental impacts and risks are defined as those that are not lower order risks or impacts (i.e., where the environment or receptor is formally managed, vulnerable, restricted in distribution, protected or threatened and there is little confidence in the effectiveness of adopted control measures).

Impacts and risks are considered to be higher-order when, using the Beach risk matrix (Figure 6), the impact consequence is rated as 'serious', 'major', 'critical' or 'catastrophic', or when the risk is rated as 'severe' or 'extreme.' In these cases, further controls must be considered.

5.3 Risk Assessment Register

An environmental impact and risk register records the outcomes of the risk assessment and the environmental control measures (e.g., measures to prevent, minimise and mitigate impacts and risks) for the activity. In the context of the activities proposed within the permit area, there is an absence of risk and impact and therefore no further assessment was required.

5.4 Monitor and review

Monitoring and review activities are incorporated into the impact and risk management process to ensure that controls are effective and efficient in both design and operation.

As there is no activity proposed in the marine environment for the offshore operations, the establishment of environmental performance objectives, standards and measurement criteria for each environmental risk has not been undertaken during the preparation of the EP. Should the nature of the offshore operations change, a review of the EP will be initiated in accordance with Beach's management of change processes (BSTD 7.3). This will include a review of the environmental risk assessment in accordance with Beach's Risk Standard (BSTD 8.1).

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

6. Impact and Risk Assessment

As described in Section 3, the petroleum activity within the VIC/L007745 permit area and covered by this EP is the flow of gas from the Enterprise reservoir, through an existing well bore at depths of greater than 1,000m below the sea floor.

There will be no vessel-based activities and therefore no impacts from routine vessel-based discharges and emissions, and no risk of vessel-based hydrocarbon spills. There will be no infrastructure on the sea floor. The risk of a well blow out within the permit area is not considered credible (if such an event were to occur, it would occur onshore at the well site). Any well intervention activities will be conducted onshore, and impacts and risks associated with this and other activities required for the operation of the Enterprise wellsite located within PSDA007746 are covered in the Enterprise Wellsite Facility Operation Plan (CDN/ID 18993096) and associated Enterprise Wellsite EMP (CDN/ID 18993093) that has been submitted to DEECA in accordance with the requirements of the Petroleum Act and associated Petroleum Regulations. Table 10 lists the typical impacts and risks associated with the operation of offshore wells and pipelines, and describes why they are not applicable to the Enterprise 1 offshore operations and therefore not assessed in the EP or presented in this EP Summary.

In summary, there is no credible impact pathway for the environment, commercial fishing, commercial shipping or tourism activities within the permit area and therefore potential environmental or socio-economic impacts cannot be assessed for this activity.

Table 10: Typical impacts and risks associated with offshore wellhead and pipeline operations

Hazard	Why hazard is not applicable to offshore Enterprise 1 operations	
Impact		
<i>Activity-specific</i>		
1	Seabed disturbance	Wellbore is sub-surface (> 1,000m below the seabed) within the permit area
2	Discharge of control fluids	Wellhead and associated production infrastructure is located onshore within PSDA007746
3	Discharge of gas/condensate during choke replacement	Wellhead and associated production infrastructure is located onshore within PSDA007746
4	Removal of marine growth	Wellbore is sub-surface (> 1,000m below the seabed) within the permit area, wellhead and associated production infrastructure is located onshore within PSDA007746
<i>Routine vessel impacts (associated with inspection and maintenance activities)</i>		
5	Underwater sound	No vessel-based activities
6	Light emissions	No vessel-based activities
7	Atmospheric emissions	No vessel-based activities
8	Putrescible waste discharges	No vessel-based activities
9	Sewage and grey water discharges	No vessel-based activities

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Hazard		Why hazard is not applicable to offshore Enterprise 1 operations
10	Cooling and brine water discharges	No vessel-based activities
11	Bilge water and deck drainage discharges	No vessel-based activities
12	Displacement of other marine users	No vessel-based activities
Risk		
<i>Activity-specific</i>		
1	Gas condensate release - pipeline rupture	No pipeline. Wellbore is sub-surface (>1,000m below the seabed) within the permit area
2	Gas condensate release - loss of well control	Wellhead and associated production infrastructure is located onshore within PSDA007746
<i>Routine vessel risks (associated with inspection and maintenance activities)</i>		
3	Accidental discharge of waste to the ocean	No vessel-based activities
4	Interference with third party vessels	No vessel-based activities
5	Vessel strike or entanglement with megafauna	No vessel-based activities
6	Introduction of invasive marine species	No vessel-based activities
7	Diesel spill	No vessel-based activities

In conclusion, there will be no impacts or risks to the marine environment within the permit area during the offshore operations phase and as a result all impacts and risks are considered to be reduced to ALARP.

7. Implementation Strategy

The Beach Operations Excellent Management System (OEMS) will be used to govern the implementation of the EP. The OEMS provides guidance on how Beach will meet the requirements of its Environmental Policy. The Beach OEMS has been developed considering Australian/New Zealand Standard ISO 14001:2016 Environmental Management Systems. The OEMS is an integrated management system and includes all health, safety and environment (HSE) management elements and procedures.

The Implementation Strategy described in this section provides a summary of the OEMS elements and how they will be applied to effectively implement the control measures detailed in this EP. Specifically, it describes:

- the OEMS;
- environment-specific roles and responsibilities;
- arrangements for monitoring, review and reporting of environmental performance;
- preparedness for emergencies; and
- arrangements for ongoing consultation.

7.1 Operations Excellence Management System

The OEMS documents the Environmental Policy, 11 OEMS Elements, HSE Procedures and the key HSE processes and requirements for activities where Beach is the titleholder. It provides a management framework for achieving the requirements in a systematic way but allows flexibility to achieve this in a manner that best suits the business. The OEMS has been developed based on the IOGP Operating Management System Framework and is aligned with the requirements of recognised international and national standards including:

- ISO 14001 (Environmental Management);
- ISO 31000 (Risk Management); and
- ISO 45001 (Occupational Health and Safety Management Systems).

At the core of the OEMS are 11 elements and associated standards that detail specific performance requirements that incorporate all the requirements for the implementation of the Environmental Policy and management of potential HSE impacts and risks (Figure 8 and Table 11). The Elements, via the nominated expectations, sponsor 30 Beach OEMS Standards, which provide more granular minimum compliance rule sets under which Beach operates. At the business level, the system is complemented by asset and site procedures and plans such as the EP.

The application of OEMS Elements and Standards relevant to the activity covered by this EP are described in the following sections.

Environment Plan Summary – Enterprise 1 Offshore Operations
S4710RH734290



Figure 8: The Beach OEMS

Table 11: Beach OEMS Elements and Standards

Element	Standard
1 Partners, Leadership and Authority	Leadership Standard
	Technical Authority Standard
	Joint Venture Management Standard
2 Financial Management and Business Planning	Integrated Planning Standard
	Phase Gate Standard
	Hydrocarbon Resource Estimation and Reporting Standard
	Finance Management Standard
3 Information Management and Legal Requirements	Regulatory Compliance Standard
	Document Management Standard
	Information Management Standard
4 People, Capability and Health	Training and Competency Standard
	Health Management Standard
5 Contracts and Procurement	Contracts and Procurement Standard
	Transport and Logistics Standard
6 Asset Management	Asset Management Standard

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Element	Standard	
	Maintenance Management Standard	
	Well Integrity Management Standard	
	Well Construction Management Standard	
	Project Management Standard	
7	Operational Control	Operational Integrity Standard
		Process Safety Standard
		Management of Change Standard
8	Risk Management and Hazard Control	Risk Management Standard
		Safe Systems of Work
		Emergency and Security Management Standard
9	Incident Management	Incident Management Standard
10	Environment and Community	Environment Management Standard
		Community Engagement Standard
11	Assurance and Reporting	Sustainability Standard
		Assurance Standard

7.2 Partners, Leadership and Authority

Element 1 focuses on ensuring the organisation is equipped, structured and supported to ensure a healthy, efficient and successful company. Communications with internal and external bodies, including joint venture partners, is essential to delivering successful projects and operations. The leadership styles and actions demonstrated within Beach will influence the performance of all staff and contractors. Clear levels of authority are necessary to remove organisational ambiguity and to support effective decision making.

To this effect, Beach’s Environment Policy provides a clear commitment to conduct its operations in an environmentally responsible and sustainable manner.

Demonstrable compliance with the EP is a key commitment for Beach.

The Beach Energy CEO has the ultimate responsibility for ensuring that Beach Energy has the appropriate organisation in place to meet the commitments established within the EP. However, the Otway Production Manager has the responsibility and delegated authority to ensure that adequate and appropriate resources are allocated to comply with OEMS and the EP.

This element recognises that a systematic risk-based approach to HSE management is in place as an integral part of leadership and planning, and that HSE goals and targets must be established and measured. A philosophy of continuous improvement is applied to all Beach operations.

Targets for environmental performance are generally detailed via environmental performance objectives (EPO) and environmental performance standards (EPS) resulting from the impact and risk assessments. In the case of the offshore Enterprise 1 operations, no such EPO or EPS are required.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

7.3 People, Capability and Health

Element 4 focuses on ensuring the people within the business are fully equipped with the competencies required to perform their assigned duties and are physically and mentally prepared. This element is important in protecting workers' health and is closely aligned with Standard 8.1 (Risk Management) and Standard 8.2 (Safe Systems of Work).

There are two standards (see Table 11) and four outcomes to be delivered under this element. Standard 4.1 is discussed below, noting that the health management standard is not relevant to the EP.

Training and Competency Standard

Standard 4.1 describes the minimum company requirements to ensure personnel training requirements are identified and meet the tasks they are required to perform, and that verification of competency is carried out where necessary. The Standard defines the responsibilities for ensuring suitable training programmes are available and for ensuring people's levels of capability are maintained at the required level.

Each employee or contractor with responsibilities pertaining to the implementation of the EP shall have the appropriate competencies to fulfil their designated role. This will be achieved by ensuring OGP workers, operating the Enterprise 1 well are fully inducted into the environmental and safety requirements associated with operating the well. Records of completion of the induction will be recorded and maintained.

The Beach Otway Production Manager is responsible for delivering the induction or facilitating it if presented by another member of the team.

This element also includes the management of HSE risks to personnel associated within the working environment and encourages a healthy lifestyle for its employees and provides formal programs to promote health and fitness. These are not related to the implementation of the EP and are not addressed here.

7.4 Asset Management – Monitoring and Assurance Process

The focus of Element 6 is the design, build and operation of assets. The underpinning standards reflect the importance of inherent safety in design, recognising that hazards and risk are to be reduced to ALARP in the design phase of an asset. The standards define the minimum requirement for the monitoring and assurance processes that support the ongoing safe and reliable management of an asset throughout its lifecycle. Element 6 draws heavily on the principles of process safety and is closely aligned with Element 7 (Operational Control) and Element 8 (Risk Management).

There are five standards (see Table 11) and eight outcomes to be delivered under this element, further outline in the EP.

7.5 Emergency and Security Management Standard

Element 8 is about risk management and hazard control and includes Standard 8.3 the emergency and security management standard which defines the minimum performance requirements to effectively manage credible emergency and security events, and to enable an efficient recovery to normal operations following such an event. The Standard defines the prevention, preparedness, response and recovery principles to be applied, the organisational structures to support emergency and security measures, and the training and testing protocols that must be in place to assure Beach maintains a state of readiness.

The emergency response framework to be applied to Enterprise 1 well operations is outlined below.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Emergency Response Framework

The Beach Crisis and Emergency Management Framework consists of a tiered structure whereby the severity of the emergency triggers the activation of emergency management levels. The emergency response framework contains three tiers based on the severity of the potential impact, as outlined in Figure 9. This framework is described in the Beach Emergency Management Plan (EMP) (CDN/ID 128025990).

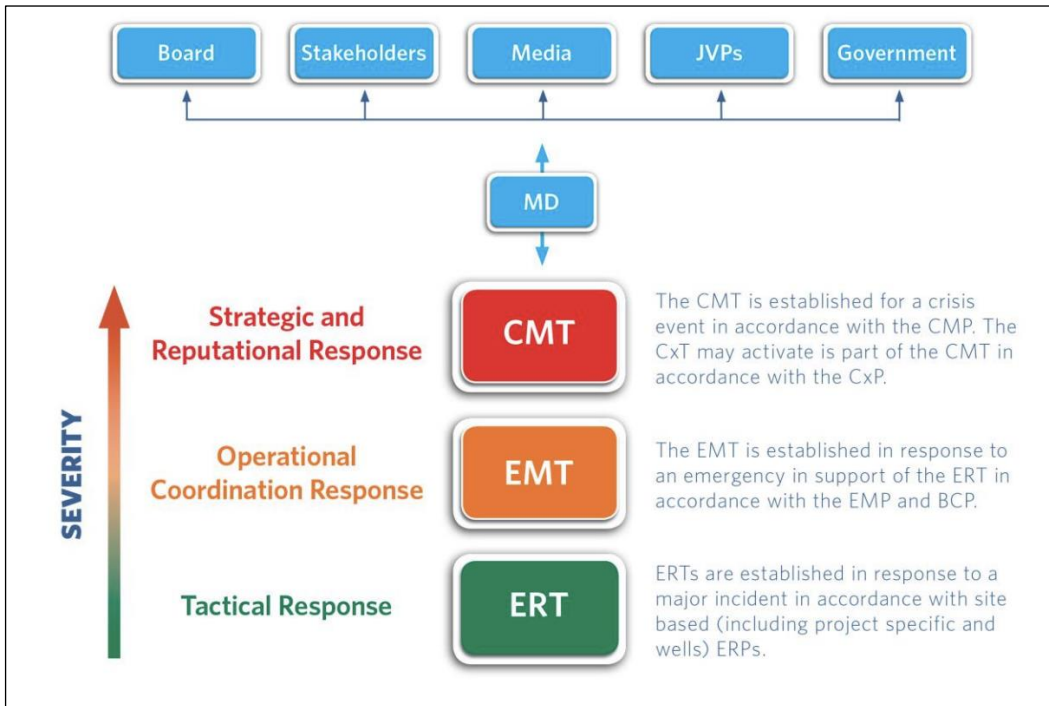


Figure 9: Beach Crisis and Emergency Management Framework

The key emergency response arrangements for the Enterprise 1 well operations are outlined in the Otway/HBWS/Thylacine Emergency Response Plan (ERP) (CDN/ID 3977022). The ERP contains generic response procedures for a range of credible emergency scenarios, reporting requirements, and site-specific appendices where individual requirements are captured, such as site evacuation plans, and particular areas of risk.

The Beach ERP will be reviewed and updated, as necessary, to incorporate lessons learned from training, exercises and incidents, both internally and externally. The ERP will be updated as required following a major accident, near miss or an exercise. Review and testing of the ERP will involve:

- Conducting an emergency response drill on location;
- Testing of associated procedures and systems when they are first devised or significantly changed, and on a regular basis not exceeding 12 months;
- Weekly discussion during toolbox talks; and
- Undertaking a review of all tests to identify opportunities for improvement and amendment of the ERP.

Emergency response reviews to test the emergency response arrangements will be undertaken throughout the operational life of the Enterprise 1 well in accordance with the Otway ERP. The outcomes of the reviews

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

will be documented to assess the effectiveness of the review and to record any lessons and actions, and the outcomes will be communicated to participants. Actions will be recorded and tracked to completion.

7.6 Incident Management

Element 9 defines how Beach classifies, investigates, reports and learns from incidents. An incident is any unplanned event or change that results in potential or actual adverse effects or consequences to people, the environment, assets, reputation, or the community.

There is one standard (see Table 11) and five outcomes to be delivered under this element, with the standard discussed below.

7.6.1 Standard 9.1 – Incident Management Standard

Standard 9.1 defines the requirement for incident reporting and subsequent investigation requirements. It ensures that incident classification is applied consistently across the company, and that the appropriate level of investigation and approval authority is implemented. The standard describes the requirement for identifying and assigning remedial actions, and for communicating key learnings throughout the business. As such, the standard also defines the requirement for adequate training for those persons involved in performing investigations.

The incident management standard requires that all HSE incidents, including near misses, are reported, investigated and analysed to ensure that preventive actions are taken, and learnings are shared throughout the organisation.

Incident reports and corrective actions are managed using the incident management system (CMO).

The recordable and reportable incident types are described in this section.

7.6.2 Recordable Incident Management

Regulation 6 of the OPGGS Regulations defines a 'recordable' incident as:

A breach of an EPO or EPS in the EP that applies to the activity that is not a reportable incident.

In the absence of offshore activities associated with this activity, routine monthly recordable incident reports will not be completed. Onshore recordable incidents will be recorded and reported as outlined in the onshore Enterprise 1 Operations EMP in accordance with the requirements of the Petroleum Act.

7.6.3 Reportable Incident Management

Regulation 6 of the OPGGS Regulations defines a 'reportable' incident as:

An incident relating to the activity, whether or not described in an EP in force for the activity, that has caused, or has the potential to cause, moderate to catastrophic environmental consequences and a breach of, or non-compliance with the Act, the regulations or the EPOs set out in an EP in force for the activity.

In the context of the Beach Environmental Risk Matrix, Beach interprets 'moderate to catastrophic' environmental consequence to be those hazards identified through the EIA and ERA process (see Chapter 6) as having an inherent or residual impact consequence of 'moderate (2)' or greater. There are no such hazards with such consequences for the offshore Enterprise 1 operations.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

In the absence of offshore activities associated with this activity, reportable incident reports will be limited to onshore operations. Onshore reportable incidents will be recorded and reported as outlined in the onshore Enterprise 1 Operations EMP in accordance with the requirements of the Petroleum Act.

7.6.4 Incident Investigation

In the absence of offshore activities associated with this activity, incident investigations will be limited to onshore operations. Onshore incidents will be investigated and reported as outlined in the onshore Enterprise 1 Operations EMP in accordance with the requirements of the Petroleum Act.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

8. References

- Boreen, T., James, N., Silson, C., Heggi, D. 1993. Surficial cool-water carbonate sediments on the Otway continental margin, Southeastern Australia. Elsevier Science Publishers BV., *Marine geology*, 112 p35-56.
- BoM. 2022. Climate statistics for Australian locations monthly climate statistics Warrnambool Airport NDB. http://www.bom.gov.au/climate/averages/tables/cw_090186.shtml. Bureau of Meteorology, Australian Government, Canberra ACT.
- Butler, A., Althaus, F., Furlani, D. and 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.
- CER. 2015. ALARP Guidance. Part of the Petroleum Safety Framework and the Gas Safety Regulatory Framework. The Commission for Energy Regulation. Dublin.
- Commonwealth of Australia. 2015. South-east Marine Regional Profile: A description of the ecosystems, conservation values and uses of the South-east Marine Region. Commonwealth of Australia. Canberra.
- Currie, D.R. and Jenkins, G.P. 1994. Marine Growth on Submarine Structures in the Minerva Field: a review for BHP Petroleum.
- DAWE. 2022. EPBC Act Protected Matters Report. Department of Agriculture, Water and the Environment.
- DCCEEW. 2022. Species Profile and Threats (SPRAT) Database. [Species Profiles \(SPRAT\) Search \(environment.gov.au\)](http://environment.gov.au). Department of Climate Change, Energy, the Environment and Water. Canberra.
- DEDJTR. 2017. Production statistics. <http://earthresources.vic.gov.au/earth-resources/victorias-earth-resources/petroleum/production-statistics>. Department of Economic Development, Jobs, Transport and Resources. Melbourne.
- DSEWPC. 2012a. Map of Giant Kelp Marine Forests of South East Australia Ecological Community. Department of Sustainability, Environment, Water, Population and Communities. Canberra.
- DSEWPC. 2012b. Approved Conservation Advice for Giant Kelp Marine Forests of South East Australia. Department of Sustainability, Environment, Water, Population and Communities. Canberra.
- Jones, I.S.F. and Padman, L. 1983. Semidiurnal internal tides in eastern Bass Strait. *Australian Journal of Marine and Freshwater Research* 34, 159–171.
- Larcombe P., Peter R., Prytz A, and Wilson, B. 1995. Factors Controlling Suspended Sediment on the Inner-Shelf Coral Reefs. *Coral Reefs*. 14. 163-171. 10.1007/BF00367235.
- McInnes, K. and Hubbert, G. 2003. A numerical modelling study of storm surges in Bass Strait. *Australian Meteorological Magazine* 52(3), 143-156.
- NNTT. 2022. National Native Title Tribunal database. National Native Title Tribunal.
- NOO. 2004. Non-fisheries Users in Australia's Marine Jurisdiction. National Marine Atlas. National Oceans Office. Hobart.
- Parks Victoria. 2006. Twelve Apostles Marine National Park and The Arches Marine Sanctuary Management Plan. Parks Victoria, Melbourne. Available from: http://parkweb.vic.gov.au/_data/assets/pdf_file/0020/313445/Twelve-Apostles-Marine-National-Park-and-The-Arches-MS-Management-Plan.pdf
- Parks Victoria. 1988. Port Campbell National Park and Bay of Islands Coastal Park management plan. Kew, VIC. September.

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

Parry, G.D., Campbell, S.J., and Hobday, D.K. 1990. Marine resources off East Gippsland, Southeastern Australia. Technical Report No. 72, Marine Science Laboratories. Queenscliff, Victoria.

Poore, G.C.B., Wilson, R.S., Gomon, M., and Lu, C.C. 1985. Museum of Victoria Bass Strait Survey, 1979-1984. Museum of Victoria: Melbourne.

Wilson, R. and Poore, G. 1987. The Bass Strait survey: biological sampling stations, 1979-1984. Occasional papers from the Museum of Victoria 3, 1–14.

Whinney, J. 2007. Physical conditions on marginal coral reefs. PhD, James Cook University, Thesis (unpublished).

Environment Plan Summary – Enterprise 1 Offshore Operations

S4710RH734290

9. Document Information and History

Document custodian group

Title	Name/s
Operations	Otway Production Manager

Document history

Rev	Date	Purpose / Changes made in document	Reviewer	Consolidator	Approver
A	6/5/2024	Draft issued for Beach Review	Erias		
B	13/5/2024	Beach internal review	CKI, SDO, TLA, CNA		
0	31/5/2024	Issued for use - submission to DEECA		CKI	LDI
1	17/6/2024	Updated liaison details. Issued for use - submission to DEECA	CKI	CKI	LDI

END OF DOCUMENT