

Otway Offshore Operations Environment Plan Summary

Operations | Otway Basin | EP

Role	Name	Job Title	Signature	Document Control
Document Originator:	T Visser	Environment Advisor	Terry Visser Digitally signed by Terry Visser Date: 2024.12.23 14:29:30 +08'00'	Doc No: CHN-EN-EMP-0001
Document Reviewer:	O Glade-Wright	Environment & Sustainability Manager		Rev: 12
Document Approver:	N Childs	Chief Corporate Services Officer	Nathan Childs Digitally signed by Nathan Childs Date: 2024.12.23 17:23:32 +10'30'	Rev Date: 19 December 2024

Table of Contents

1	Introduction	17
1.1	Environment Plan Summary	17
1.2	Background	17
1.3	Purpose	19
1.4	Scope	19
1.5	Titleholder Details	20
2	Requirements	21
2.1	EPBC Act Requirements	21
2.2	Otway Development Approvals	21
2.3	Government Policy and Administrative Guidelines	58
3	Activity Description	59
3.1	Activity Location	59
3.2	Activity timing	60
3.3	Asset Description	61
3.4	Asset Decommissioning	64
3.5	Production and Field Characteristics	65
3.6	Activities that have the potential to impact the environment	70
4	Description of the Environment	80
4.1	Regulatory Context	80
4.2	Environment that May Be Affected	80
4.3	Regional Setting	82
4.4	Physical, Biological, Social and Cultural Receptors	83
5	Impact and Risk Assessment	137
5.1	Definitions	137
5.2	Risk Management Process Steps	138
6	Risk and Impact Evaluation	146
6.1	Impact and Risk Scoping	146
6.2	Lower Order Impact and Risk Evaluation	148
6.3	Seabed Disturbance	159
6.4	GHG Emissions	164
6.5	Underwater Sound Emissions	179
6.6	Introduction, Establishment and Spread of IMS	226
6.7	Accidental Hydrocarbon Release	233
7	Risk and Impact Evaluation - First Nations Cultural Heritage Values and Sensitivities	282
7.1	Summary of Potential Impacts to Cultural Features	283
7.2	Activity Aspect Interactions with Cultural Features	288

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

7.3	Evaluation	292
7.4	Control Measures, ALARP and Acceptability Assessment	302
8	Oil Spill Response Overview	309
8.1	Oil Spill Response Strategies	309
8.2	Response Priority Areas	309
8.3	Pre-spill Net Environmental Benefit Assessment	309
8.4	SPILL RESPONSE: Source Control	315
8.5	SPILL RESPONSE: Monitor and Evaluate	340
8.6	SPILL RESPONSE: Protect and Deflect	343
8.7	SPILL RESPONSE: Shoreline Assessment and Clean-up	347
8.8	SPILL RESPONSE: Oiled Wildlife Response	352
9	Environmental Performance Outcomes, Standards and Measurement Criteria	356
10	Implementation	370
10.1	Cooper Energy Management System (CEMS)	370
10.2	Asset Integrity Management	373
10.3	Project Planning	373
10.4	Contractor Management	375
10.5	Organisational Structure, Roles and Responsibilities	376
10.6	Training and Awareness	378
10.7	Emergency Response	380
10.8	Chemical Assessment and Selection	381
10.9	Invasive Marine Species Risk Assessment	382
10.10	Marine Mammal Risk Review and Management	383
10.11	Management of Change	385
10.12	Incident Reporting and Recording	386
10.13	Environmental Performance Monitoring and Reporting	390
10.14	Records Management	392
11	Consultation	393
11.1	Summary	393
11.2	Regulatory Compliance – Summary of Requirements	393
12	References	535
12.1	Cooper Energy Documents	535
12.2	Guidance	535
12.3	Literature	536

Table of Tables

Table 1-1 EP Summary of material requirements

17

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 1-2: Titleholder and Liaison Person	20
Table 2-1: Requirements of the Regulations	21
Table 2-2: Summary of Victorian environmental legislation and Guidelines relevant to Otway Operations	23
Table 2-3: Summary of Commonwealth Environmental Legislation and Guidelines relevant to Otway Offshore Operations	27
<i>Table 2-4 Recovery plans, threat abatement plans and species conservation advices</i>	32
Table 2-5: Guidance on Key terms within the Blue Whale Conservation Management Plan (September 2022) and how they are applied within this EP	57
Table 3-1: Coordinates of the Subsea Well Locations	59
Table 3-2: Coordinates of the Offshore Otway Pipelines	59
Table 3-3: Indicative activity timings	60
Table 3-4 Equipment Status	62
Table 3-5 Indicative Decommissioning Plan	64
Table 3-6: Otway offshore reservoirs - estimated resource	67
Table 3-7: Otway Field Reservoir Conditions	68
Table 3-8: Otway Field Gas Compositions	68
Table 3-9: Physical Characteristics of the Netherby Condensate	70
Table 3-10: Geophysical Survey Equipment	72
Table 3-11: Summary of Typical Maintenance and Repair Activities	74
Table 4-1: Otway Offshore Operations Project Area descriptions	81
Table 4-2: Presence of Physical Receptors within the Operational Area and monitoring EMBA	84
Table 4-3: Presence of Biological Receptors within the Operational Area and EMBA	88
Table 4-4: Presence of Social Receptors within the Operational Area and EMBA	107
Table 4-5: Guidance documents used to identify cultural features of the environment relating to First Nations people's heritage sites and values	124
Table 4-6: Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values proximal to Cooper Energy Offshore Title Areas	126
Table 4-7: Seasonality of Key Sensitivities within the Otway Basin	134
Table 5-1 Consequence Assessment Criteria	140
Table 5-2 Cooper Energy qualitative risk matrix	141
Table 5-3 Cooper Energy Acceptability Evaluation	144
Table 5-4 Principles of Ecologically Sustainable Development (ESD)	145
Table 6-1: Aspect-Activity Interactions	147
Table 6-2: Lower Order Planned Impact and Risk Evaluation	148
Table 6-3: Lower Order Unplanned Events Risk Evaluation	154
Table 6-4: Seabed Disturbance Estimated Footprints	159
Table 6-5: Seabed Disturbance ALARP, Control Measures and Acceptability Assessment	163
Table 6-6: GHG emissions sources	164
<i>Table 6-7: Cumulative GHG emissions predicted for the Offshore Operations</i>	165
<i>Table 6-8: GHG emissions predicted for the onshore production and use for the period 2022 to 2030</i>	165
<i>Table 6-9: Projected impacts of CO₂ rise and climate change on Australian ecosystems</i>	169
<i>Table 6-10: Overview of impacts of climate change to the future vulnerability of particular taxa in Australia</i>	170
Table 6-11: GHG Emissions -- ALARP, Control Measures and Acceptability Assessment	173

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 6-12: Sound source levels for IMR Activity	180
Table 6-13: Noise effect criteria for continuous sound	182
Table 6-14: Maximum horizontal distances (R_{max}) from the modelled scenario to reach noise effect criteria	183
<i>Table 6-15: Positioning and survey equipment source frequencies and sound levels</i>	183
<i>Table 6-16: Noise effect criteria for impulsive sound</i>	184
<i>Table 6-17: Estimated maximum horizontal distance from any equipment to reach noise effect criteria</i>	185
Table 6-18: Low-frequency Cetacean presence and biological important behaviours	188
Table 6-19 Reasonably foreseeable future activities and projects in the offshore Otway Basin	204
Table 6-20: Underwater Sound Emissions ALARP, Control Measures and Acceptability Assessment	207
<i>Table 6-21: Underwater sound emissions extended ALARP Assessment</i>	212
Table 6-22: IMS Risk: Pathways for potential introduction, establishment and spread of IMS	226
Table 6-23: Comparison of known IMS in key Domestic Ports (State waters) servicing offshore operations	227
Table 6-24: Introduction, Establishment and Spread of IMS Control Measures, ALARP and Acceptability Assessment	229
Table 6-25: Accidental Hydrocarbon Release Types, Causes and Estimated Volumes	233
Table 6-26: Justification for Hydrocarbon Impact Thresholds	235
Table 6-27: Summary of deterministic modelling outcomes for a surface release of MDO and a subsurface release of condensate	245
Table 6-28: Consequence Evaluation for MDO Exposure – Surface	250
Table 6-29: Consequence Evaluation for MDO Hydrocarbon Exposure – Shoreline	254
Table 6-30: Consequence Evaluation for MDO Exposure – In-water	259
Table 6-31: Consequence Evaluation for Condensate Exposure – Surface	266
Table 6-32: Consequence Evaluation for Condensate Exposure – In-water	266
Table 6-33: Consequence Evaluation for Condensate Exposure - Shoreline	271
Table 6-34: Accidental Hydrocarbon Release ALARP, Control Measures and Acceptability Assessment	278
Table 7-1: Potential impacts to cultural features	283
Table 7-2: Aspect Interactions, and Impacts and Risks Levels for Environment Receptors that are Cultural Features, or are part of Cultural Features	289
Table 7-3: First Nations Cultural Heritage Control Measures, ALARP and Acceptability Assessment	302
Table 7-4: Potential Impacts to Cultural Features - extended ALARP assessment	305
<i>Table 8-1: Hydrocarbon spill risks associated with the activities</i>	309
Table 8-2: Suitability of Response Options for MDO and Otway Condensates Spills	310
Table 8-3 Overview of Level 3 Source Control Options Applicable to Otway Offshore Operations	316
Table 8-4 Indicative survey and debris clearance equipment	318
Table 8-5 RTM Site Survey, Debris Clearance and Intervention	318
Table 8-6 Relief Well Complexity Assessment (after APPEA 2021)	321
Table 8-7: Relief Well Installation Timeline	323
Table 8-8 Safety Case Revision Preparation and Approval Timeline	324
<i>Table 8-9: Source Control ALARP Evaluation</i>	326
Table 8-10: Source Control Activities EIA / ERA	339
Table 8-11: Feasibility / Effectiveness of Proposed Monitor and Evaluate Response	341
Table 8-12: Monitoring and Evaluation Activities EIA / ERA	342
Table 8-13: Feasibility / Effectiveness of Protect and Deflect Response	343

Table 8-14: Protect and Deflect Response ALARP Evaluation	344
Table 8-15: Shoreline Protection and Deflection Activities EIA / ERA	346
Table 8-16: Feasibility / Effectiveness Shoreline Assessment and Clean-up	348
Table 8-17: Shoreline Assessment and Clean-up Activities EIA / ERA	350
Table 8-18 Estimated Waste Types and Volumes from a BMG Vessel Collision Event	352
<i>Table 8-19 Feasibility/Effectiveness of Shoreline Assessment and Clean-up Response</i>	352
Table 8-20 OWR ALARP Evaluation	353
Table 8-21 Shoreline Assessment and Clean-up EIA/ERA	354
Table 9-1: EPOs, Standards and Measurement Criteria	357
Table 10-1: Cooper Energy's Management System Core Concepts	370
Table 10-2: CEMS Standards	371
Table 10-3: Cooper Energy Environmental Roles and Responsibilities	376
Table 10-4: Environmental components to be included in Environmental Inductions	380
Table 10-5: SCERP Content	381
Table 10-6 Cooper Energy Offshore Chemical Assessment Procedure Summary	381
Table 10-7: External Incident Reporting Requirements	388
Table 10-8: Summary of Assurance Processes	390
Table 10-9: Emissions and Discharge Monitoring	390
<i>Table 11-1: OPGGS(E) Regulation Consultation Compliance</i>	395
<i>Table -11-2: Relevant Persons for the Otway Offshore Activities</i>	405
<i>Table 11-3: General Provision of sufficient information</i>	419
Table 11-4: Stakeholder Feedback and Cooper Energy Assessment of Objections and Claims logged pre-August 2022 (excluding GMTOAC)	426
Table 11-5: Relevant Persons Communications logged post August 2022 (Excluding GMTOAC) (Note some comments relate to different EPs but shown for completeness of discussion threads and stakeholder awareness)	432
<i>Table 11-6: Relevant Persons Consultation logged post mid-August 2023</i>	462
Table 11-7 Report on Consultation -Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC)	481
Table 11-8 Consultation demonstration (GMTOAC)	531

Table of Figures

Figure 1-1: Cooper Energy Otway Offshore Petroleum Titles	18
Figure 1-2: Otway offshore and onshore activities and associated environment (management) plans	20
Figure 3-1: Operational Area	60
Figure 3-2: CHN offshore reservoirs: recent production and current production forecasts	66
Figure 3-3: Indicative ISV	77
Figure 4-1: Otway Offshore Operations Monitoring EMBA and Operational Area	82
Figure 4-2: White Shark BIAs within the Operational Area and EMBA	100
Figure 4-3: Albatross BIAs within the Operational Area	101
Figure 4-4: Petrel and Albatross BIAs within the Operational Area, Light Exposure Area and Potential Monitoring Spill EMBA	102
Figure 4-5: Wedge-tailed Shearwater BIA within the Operational Area, Light Exposure Area and Potential Monitoring Spill EMBA	103
Figure 4-6: Pygmy Blue Whale BIAs within the Operational Area	104

Figure 4-7: Southern Right Whale BIA proximity to Operational Area	105
Figure 4-8 Seal colonies proximity to Operational Area	106
Figure 4-9: KEFs within the Operational Area and EMBA	116
Figure 4-10: Australian Marine Parks within the Operational Area and EMBA	117
Figure 4-11: Management Areas of Commonwealth Fisheries within the Operational Area and EMBA	118
Figure 4-12: Abalone Victorian State-managed Commercial Fishery Management Area within the Operational Area and EMBA	119
Figure 4-13: Victorian State-managed Commercial Fishery Management Areas within the Operational Area and EMBA	120
Figure 4-14: Energy Development Areas within the Operational Area	121
Figure 4-15: Existing Petroleum Infrastructure within the EMBA	122
Figure 4-16: AMSA Ship Locations and Shipping Routes within the EMBA	123
Figure 5-1: CEMS Risk Management Protocol	137
Figure 5-2: Impact and Risk Uncertainty Decision Making Framework	143
Figure 6-1: Facilities and Seabed Stills – Operational Area	162
Figure 6-2: <i>Whale observations (behaviour). Cooper Energy vessel based IMR activity. Gippsland 2023.</i>	181
Figure 6-3: <i>Whale observations (behaviour with distance from vessel). Cooper Energy vessel based IMR activity. Gippsland 2023.</i>	181
Figure 6-4: Upwelling Frequency in the Bass Strait	189
Figure 6-5: Noise Behaviour EMBA from IMR Vessel in relation to Southern Right Whale BIA	192
Figure 6-6: <i>Historical blue whale sightings. Otway. Source: Atlas of Living Australia. Accessed December 2023.</i>	194
Figure 6-7: Proportional mass balance plot representing the weathering of MDO spilled onto the water surface over 1 hour and subject to a constant 5 knots wind speed at 15°C water temperature	239
Figure 6-8: Proportional mass balance plot representing the weathering of MDO spilled onto the water surface over 1 hour and subject to a variable wind speeds at 15°C water temperature	240
Figure 6-9: Proportional mass balance plot representing the weathering of condensate spilled onto the water surface over 1 hour and subject to a variable wind speeds at 15°C water temperature	241
Figure 6-10: Proportional mass balance plot representing the weathering of condensate spilled onto the water surface over 1 hour and subject to a variable wind speeds at 15°C water temperature	242
Figure 6-11: Maximum residence time of oil exposure on the sea surface for low threshold (1 g/m ²) in the event of a 250m ³ surface release of MDO over 6 hours, tracked for 30 days. The results were calculated from 100 spill simulations.	243
Figure 6-12: Maximum residence time of oil exposure on the sea surface, in the event of a 10,563 m ³ subsea release of condensate over 104 days at the Annie-2 release site, tracked for 118 days. The results were calculated from 100 spill simulations.	245
Figure 6-13: Otway Offshore Operations Ecological (MDO) EMBA and Operational Area	247
Figure 6-14: Otway Offshore Operations Social (MDO) EMBA and Operational Area	247
Figure 6-15: Otway Offshore Operations Ecological (Condensate) EMBA and Operational Area	248
Figure 6-16: Otway Offshore Operations Social (Condensate) EMBA and Operational Area	248
Figure 7-1: Conceptual Illustration – Interaction between Project Aspects and Environment Receptors, and links to Cultural Features and Practices	283
Figure 10-1: CEMS Document Hierarchy	371
Figure 10-2: Cooper Energy Health, Safety, Environment and Community Policy	372
Figure 10-3: Project Workflow	373
Figure 10-4: CHN Field Life Extension Strategy	374
Figure 10-5: CHN Decommissioning Planning Strategy	375
Figure 10-6: Cooper Energy Otway Offshore Operations Organisational Structure	376

Figure 10-7: Cooper Energy IMS Risk Management Flow	383
Figure 10-8: Campaign Risk Review Framework	384
Figure 10-9: EP Regulator Re-submission Process	386
<i>Figure 11-1 Regional Media Connect / Victorian Country Press Advertisement</i>	402
<i>Figure 11-2- News Corp Australia Advertisement</i>	403
<i>Figure 11-3 Koori Mail Advertisement</i>	403
<i>Figure 11-4: Indicative timeline</i>	421

Acronyms and Abbreviations

Acronym	Definition
µm	Micrometre
µPa	Micro Pascal
0-pk	zero-to-peak
2D	Two-Dimensional
AAD	Australian Antarctic Division
AEMO	Australian Energy Market Operator
AEP	Australian Energy Producers (previously APPEA)
ADIOS	Automated Data Inquiry for Oil Spills
AFMA	Australian Fisheries Management Authority
AGP	Athena Gas Plant
AHS	Australian Hydrographic Service
ALARP	As Low as Reasonably Practicable
AMMC	Australian Marine Mammal Centre
AMOSC	Australian Marine Oil Spill Centre
AMOSPlan	Australian Industry Cooperative Oil Spill Plan
AMP	Australian Marine Parks
AMSA	Australian Maritime Safety Authority
ANZECC	Australian and New Zealand Environment Conservation Council
API	American Petroleum Institute
APPEA	Australian Petroleum Production & Exploration Association
ARS	Area Restricted Search
AS	Australian Standard
ASTM	American Society for Testing and Materials
ASX	Australian Stock exchange
AVCZ	Central Zone Abalone Victoria
AVG	Abalone Viral Ganglioneuritis
bbls	barrels
Bcf	Billion cubic feet
BIA	Biologically Important Area
BOD	Biological Oxygen Demand
BOM	Bureau of Meteorology
BOP	Blowout Preventer
BP	British Petroleum
BP EM	Best Practice Environmental Management
BW	Blackwatch
BWMC	Ballast Water and Sediments Convention

Acronym	Definition
CA	Control Agency
CAMBA	China/Australia Migratory Birds Agreement
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CEMS	Cooper Energy Management System
CFA	Commonwealth Fisheries Association
CGR	Condensate to-gas Ratio
CH₄	Methane
CHARM	Chemical Hazard Assessment and Risk Management
CHIRP	Compressed High-Intensity Radar Pulse
Chl-A	Chlorophyll A
CHN	Casino-Henry-Netherby
CITES	Convention in International Trade in Endangered Species of Wildlife and Flora
CM	Casino - Matador
CMP	Conservation Management Plan
CMR	Commonwealth Marine Reserve now called Australian Marine Parks
CMT	Crisis Management Team
CO₂	Carbon Dioxide
CoA	Commonwealth of Australia
COE	Cooper Energy
COLREGS	International Regulations for Preventing Collisions at Sea
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSV	Construction Support Vessels
CTD	Conductivity, Temperature and Depth
CTS	Commonwealth Trawl Sector
CWTH	Commonwealth
DAFF	Department of Agriculture, Fisheries and Forestry
DAWE	Department of Agriculture Water and the Environment. Note, at the time of writing DAWE had recently split into DCCEEW and DAFF
DAWR	Department of Agriculture Water and Resources, superseded by Department of Agriculture Water and the Environment (DAWE)
dB	Decibels
dB re 1 µPa	Decibel with a reference level of 1 micro-Pascal
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DCV	Domestic Commercial Vessels
DEDJTR EMD	Department of Economic Development Jobs Trade and Resources Emergency Management Division. Previously Department of Transport Planning and Local Infrastructure (DTPLI). Now Department of Jobs Skills Industry and Regions (DJSIR) and Department of Transport and Planning (DTP).

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Acronym	Definition
DEECA	Department of Energy, Environment and Climate Action (formerly DELWP)
DELWP	Department of Environment, Land, Water and Planning. Now DEECA
DEWHA	Department of Environment Heritage Water and the Arts
DIIS	Department of Industry Innovation and Science now Department of Industry, Science, Energy and Resources (DISER)
DISER	Department of Industry, Science, Energy and Resources previously Department of Industry Innovation and Science (DIIS)
DJPR	Department of Jobs Precincts and Regions (formerly DEDJTR)
DJSIR	Department of Jobs, Skills, Industry and Regions (formerly DJPR)
DNV	Det Norske Veritas
DoD	Department of Defence
DoE	Department of Environment
DoEE	Department of Environment and Energy (previously Department of Sustainability, Environment, Water, Population & Communities (SEWPC), Department of Environment Heritage Water and the Arts (DEWHA), Department of Environment and Heritage (DEH) and Environment Australia)
DP	Dynamic Positioning
DPI	Department of Primary Industry
DSE	Department of Sustainability and Environment
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
DSV	Dive Support Vessel
DTP	Department of Transport and Planning (formerly Department of Transport)
EAC	East Australian Current
EEZ	Exclusive Economic Zone
EFL	Electrical Flying Lead
EHS	Environment Health & Safety
EHU	Electro-hydraulic umbilical
EIAPP	Engine International Air Pollution Prevention
EMBA	Environment that may be affected
EMF	Electromagnetic Fields
EMSA	European Maritime Safety Agency
EMT	Emergency Management Team
ENVID	Environmental Identification
EP	Environment Plan
EPA	Environment Protection Authority
EPBC	Environment Protection Biodiversity Conservation
EPO	Environmental Performance Outcome
EPS	Environmental Performance Standard

Acronym	Definition
ERA	Environmental Risk Assessment
ERP	Emergency Response Plan
ERR	Earth Resources Regulation
ERT	Emergency Response Team
ESD	Ecologically Sustainable Development
EU	Electrical Umbilical
FFG	Flora and Fauna Guarantee (Act)
GDA 94	Geocentric Datum of Australia 1994
GHG	Greenhouse gases
GMP	Garbage Management Plan
GoM	Gulf of Mexico
GOMO	Guidelines for Offshore Marine Operations
GRS80	Geodetic Reference System 1980
GRT	Gross Tonnes
GSACUS	Great Southern Australian Coastal Upwelling System
HB	Handbook
HDD	Horizontal Directional Drill
HF	high frequency
HMCS	Harmonised Mandatory Control System
HN	Henry - Nestor
HP	High Pressure
HPU	Hydraulic Power Unit
HQ	Hazard Quotient
HSE	Health, Safety, Environment
HSEC	Health Safety Environment and Community
IAP	Incident Action Plan
IAP2	International Association for Public Participation
IAPP	International Air Pollution Prevention
IBA	Important Bird Area
ICC	Incident Control Centre
ILI	Internal Line inspection
ILT	In-line Tee
IMCRA	Interim Marine and Coastal Regionalisation for Australia
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organisation
IMP	Integrity Management Plan
IMR	Inspection Maintenance & Repair

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Acronym	Definition
IMS	Invasive Marine Species
IPCC	Intergovernmental Panel on Climate Change
IPIECA	International Petroleum Industry Environmental Conservation Association
IR	Infrared
ISO	International Standards Organisation
ITOPF	International Tanker Owners Pollution Federation
IUCN	International Union for the Conservation of Nature
IWCF	International Well Control Forum
JAMBA	Japan/Australia Migratory Birds Agreement
JHA	Job Hazard Analysis
JRCC	Joint Rescue Coordination Centre
KEF	Key Ecological Feature
Kg	Kilograms
kHz	Kilohertz
km	Kilometre
km²	Square kilometres
kt	1000 tonnes
L	Litres
LC₅₀	Lethal Concentration (50% population)
LF	Low Frequency
LGA	Local Government Area
LOC	Loss of Containment
m³	Cubic Meters
MAH	Mono-aromatic hydrocarbon
MARPOL	International Convention for the Prevention of Pollution from Ships
MBC	Maritime Border Command
MCS	Master Control System
MDO	Marine Diesel Oil
MEG	Mono-ethylene glycol
MEPC	Marine Environment Protection Committee
MF	medium frequency
mg/l	milligrams per litre
MLV	Mainline valve
MMO	Marine Mammal Observer
MMscf	Million standard cubic feet
MNES	Matters of National Environmental Significance
MOC	Management of Change

Acronym	Definition
MODU	Mobile Offshore Drilling Unit
MOU	Memorandum of Understanding
MT	Metric Tonne
N₂	Nitrogen
N₂O	Nitrous Oxide
NATPLAN	National Plan for Maritime Environmental Emergencies
NDT	Non-destructive testing
NEBA	Net Environmental Benefit Assessment
NERA	National Energy Resources Australia
Nm	Nautical Mile
NMFS	National Marine Fisheries Service
NNTT	National Native Title Tribunal
NOAA	National Oceanic and Atmospheric Administration
NOO	National Oceans Office
NOPSEMA	National Offshore Petroleum Safety & Environmental Management Authority
NOPTA	National Offshore Petroleum Titles Administrator
NO_x	Nitrogen Oxides
NRC	National Research Council
NRDA	National Resource Damage Assessment
NSW	New South Wales
NWS	Northwest Shelf
NZ	New Zealand
NZS	New Zealand Standard
°C	Degrees Celsius
OCNS	Offshore Chemical Notification System
ODS	Ozone Depleting Substances
OGP	Oil and Gas Producers
OHS	Occupational Health & Safety
OIM	Offshore Installation Manager
OIW	Oil in Water
OPEP	Oil Pollution Emergency Plan
OPGGS	Offshore Petroleum and Greenhouse Gas Storage
OPGGS_A	Offshore Petroleum & Greenhouse Gas Storage Act
OPGGS(E)R	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Com)
OPGGS_R	Offshore Petroleum & Greenhouse Gas Storage Act 2010 & Regulations (Vic) 2021
OPRC	(Convention on) Oil Pollution Preparedness, Response and Cooperation
OSMP	Operational & Scientific Monitoring Plan

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Acronym	Definition
OSPAR	Oslo-Paris Convention
OSTM	Oil Spill Trajectory Modelling
OWR	Oiled Wildlife Response
PAH	Poly-aromatic hydrocarbon
PAM	Passive Acoustic Monitoring
PBW	Pygmy Blue Whale
PJ	Petajoule
PK	Peak
pk-pk	peak-to-peak
PLEM	Pipeline End Manifold
PLONOR	Pose Little or No Risk
PMS	Planned Maintenance System
PMST	Protected Matters Search Tool
POB	Persons on Board
POWBONS	Pollution by Oil and Noxious Substances Act 1983
ppb	Parts per billion
ppm	Parts per million
PSZ	Petroleum Safety Zone
PTS	Permanent threshold shift
PTW	Permit to Work
PV	Parks Victoria
rms	Root-mean-square
ROV	Remotely Operated Vehicle
SBM	Synthetic Based Muds
SBR	Sub-Bottom Profiler
SCAT	Shoreline Clean-up Assessment Technique
SCERP	Source Control Emergency Response Plan
SCM	Subsea Control Module
SEEMP	Shipboard Energy Efficiency Management Plan
SEL	Sound Exposure Level
SELcum	Cumulative sound exposure level
SEPP	State Environment Protection Policy
SESSF	Southern and Eastern Scale-fish and Shark Fishery
SETFIA	South East Trawl Fishing Industry Association
SG	Specific Gravity
SIMAP	Spill Impact Mapping Analysis Program
SIMOPS	Simultaneous Operations

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Acronym	Definition
SIV	Seafood Industry Victoria
SMPEP	Shipboard Marine Pollution Emergency Plan
SOLAS	Safety of Life at Sea
SOx	Sulphur Dioxides
SPL	Sound Pressure Level
SSF	Sustainable Shark Fishing Inc.
SSS	Side Scan Sonar
SST	Subsea Tree
SVP	Sound Velocity Profiler
TACC	Total Allowable Commercial Catch
TAP	Threat Abatement Plan
TEC	Threatened Ecological Community
TJ	Terajoule
TPC	Third Party Contractors
TPH	Total Petroleum Hydrocarbons
TSSC	Threatened Species Scientific Committee
TTS	Temporary Threshold Shift
UK	United Kingdom
UN	United Nations
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
USBL	Ultra-Short Baseline
USEPA	United States Environment Protection Agency
UTA	Umbilical Terminal Assembly
UTM	Universal Transverse Mercator
VRFish	Victorian Recreational Fishing Association
VRLA	Victorian Rock Lobster Association
WBDF	Water-Based Drilling Fluids
WCD	Worst Case Discharge
WOMP	Well Operations Management Plan

1 Introduction

1.1 Environment Plan Summary

This Otway Offshore Operations Environment Plan (EP) Summary has been prepared from material provided in this EP. The summary consists of the following (Table 1-1) as required by Regulation 35 of the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (OPGGS(E)R) and Regulation 13E of the State Offshore Petroleum and Greenhouse Gas Storage Regulations 2021.

Table 1-1 EP Summary of material requirements

EP Summary Material Requirement	Relevant Section of EP Containing EP Summary Material
The location of the activity	Section 3.1
A description of the receiving environment	Section 4
A description of the activity	Section 3
Details of the environmental impacts and risks	Sections 6, 7 and 8
A summary of the control measures for the activity	Section 9
A summary of the arrangements for ongoing monitoring of the titleholder's environmental performance	Section 10.13
A summary of environmental emergency response arrangements	Section 10.7
Details of consultation already undertaken and plans for ongoing consultation	Section 11
Details of the titleholders nominated liaison person for the activity	Section 1.5

1.2 Background

Gas and condensate are produced from the Otway offshore gas fields located in Production Licence Areas VIC/L24 (Casino) and VIC/L30 (Netherby and Henry); these areas are excised from the VIC/P44 Greater Casino Development Area (Figure 1-1). Gas and condensate are produced via subsea wells and transported through a subsea pipeline to the Athena Gas Plant (previously called the Minerva Gas Plant) for processing. Processed gas sold to domestic customers and transported via 3rd party pipelines for use in south east Australia.

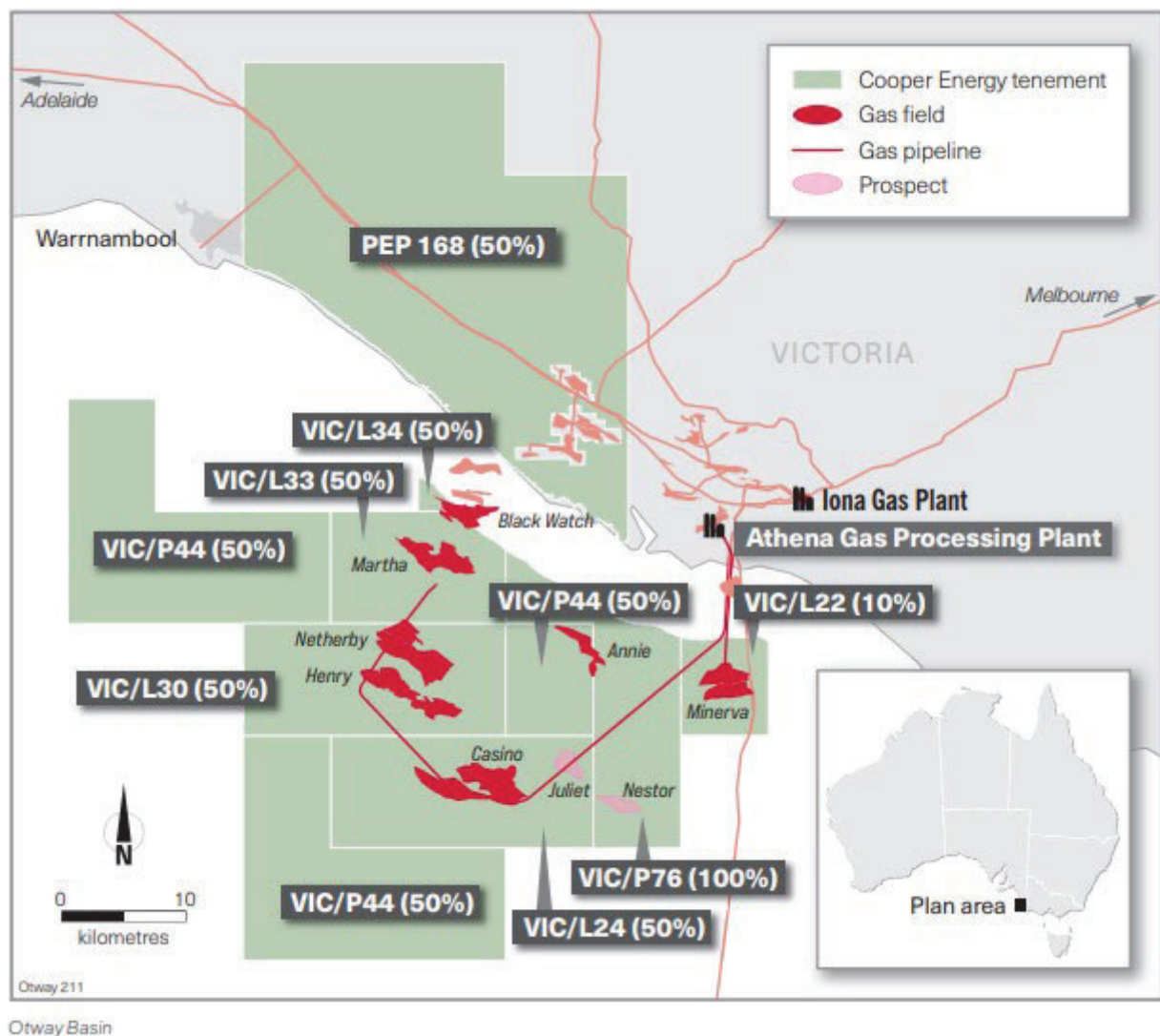


Figure 1-1: Cooper Energy Otway Offshore Petroleum Titles

The Otway offshore facilities are shown in Figure 3-1. They were developed in two stages:

- Stage I, installed 2004:
 - Subsea production wells including Casino-4 and Casino-5(Cwth waters).
 - A 32.6 kilometre (km) subsea pipeline (Casino pipeline) connecting the Casino wells to the onshore gas plant (Cwth and State waters).
 - A 31.2 km electro-hydraulic umbilical (EHU) cable connecting the Casino wells to the onshore gas plant (Cwth and State waters).
- Stage II, installed 2008:
 - Subsea production wells including Henry-2 and Netherby-1 (Cwth waters).
 - A 22 km subsea pipeline (Casino to Pecten East pipeline) tying into the Casino Pipeline, carrying gas from the Henry-2 and Netherby-1 wells, with an additional section to the Pecten reservoir where a future production well was anticipated. A production well at Pecten has not yet been drilled; drilling and construction would be subject to further planning (Cwth waters).
 - A 22 km EHU cable (extension of the umbilical above) connecting the Henry and Netherby wells to the Athena Gas Plant (Cwth and State waters).

- The facilities are designed to accommodate the tie-in and production of additional wells from within the surrounding permit areas to backfill gas as the existing fields deplete. Future stages are not in the scope of this EP submission.

1.3 Purpose

This EP provides an identification and assessment of the environmental impacts and risks associated with the operations and maintenance activities of the Otway offshore assets and provides a demonstration that known impacts and potential risks are reduced to 'As Low As Reasonably Practicable' (ALARP) and will be of an 'acceptable' level. Definitions for these terms are provided in Section 5.

As the Casino gas pipeline sits within both State and Commonwealth waters, this EP has been prepared to satisfy the requirements of Victorian and Commonwealth legislation, namely:

- The OPGGS Act 2010 and Regulations (Vic) [R15(3) Risk assessment to ALARP] 2021 (OPGGSR), administered by the Victorian Department of Energy, Environment and Climate Action (DEECA), Earth Resources Regulation (ERR) branch; and
- The Commonwealth OPGGS(E)R, administered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Cooper Energy has prepared a single EP to cover its offshore activities in both the Commonwealth and Victorian state waters and comply with the OPGGS(E)R and OPGGSR respectively. Our decision to adopt a common EP for both areas, reflects the reality that activities do not stop at the jurisdictional boundary, that the Commonwealth and State regulations are substantially the same, and creating stand-alone EPs creates significant duplication and additional administrative burden with no benefit to environmental outcomes.

Cooper Energy will submit the EP to both NOPSEMA and DEECA for assessment. Acceptance of the EP by each regulator, will only apply to activities within their respective jurisdictions. These jurisdictions are clearly outlined within this introduction, activity description throughout the document where necessary to delineate information as being specific to either jurisdiction. For the respective regulators, elements of the EP outside of their jurisdictions can be considered as context.

In this EP these regulations are collectively referred to as the Regulations.

1.4 Scope

This EP relates to the ongoing offshore operations, inspection, maintenance and repair activities of the Otway offshore assets in State and Commonwealth waters. Relevant Production Licences include VIC/L24 and VIC/L30 and Pipeline Licences VIC/PL37, VIC/PL37(V) and VIC/PL42.

The EP will cover a period of 5 years from the date of acceptance. Further details on the activities covered by the EP are provided in Section 3.

Activities specifically excluded from the scope of this EP are:

- Management of onshore activities including the Athena Gas Plant.
- Activities undertaken by vessels outside of the operational area defined in the EP (refer to Section 3.1.1.). In these circumstances, vessels are deemed to be operating under the Commonwealth *Navigation Act 2012* and not performing a petroleum activity; and
- Field abandonment and decommissioning activities¹.

Figure 1-2 illustrates the scope of this plan and those plans which provide for the onshore activities.

¹ Planning activities and deviations sought from Section 572 are described within this EP

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

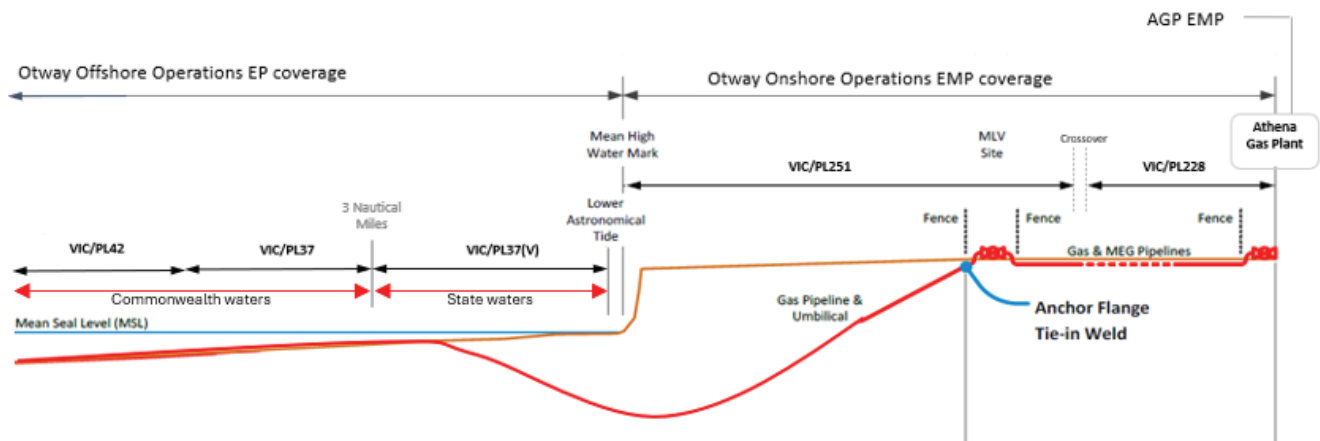


Figure 1-2: Otway offshore and onshore activities and associated environment (management) plans

1.5 Titleholder Details

In accordance with the OPGGS(E)R Regulation 23 and OPGGSR Regulation 18, details of the titleholder and liaison person for this EP are provided in Table 1-2. Further information about Cooper Energy is available at: www.cooperenergy.com.au.

Table 1-2: Titleholder and Liaison Person

Title Details	Titleholder Details	Liaison Person
Production Licence VIC/L24 (Casino) Production Licence VIC/L30 (Henry & Netherby) Pipeline Licence VIC/PL37 Pipeline Licence VIC/PL42 Pipeline Licence VIC/PL37(v)	Name: Cooper Energy (CH) Pty Ltd ABN: 70 615 355 023 Address: Level 8, 70 Franklin Street, Adelaide, 5000 Telephone Number: (08) 8100 4900 Name: Mitsui E&P Australia Pty Ltd ACN: 108 437 529 Name: Peedamullah Petroleum Pty Ltd ACN: 009 363 820	Titleholder's nominated liaison person: Nathan Childs Chief Corporate Services Officer Cooper Energy Limited Level 8, 70 Franklin Street, Adelaide, SA, 5000 Phone: (08) 8100 4900 Email: nathan.childs@amplitudeenergy.com.au

2 Requirements

This section provides information on the requirements that apply to the activity. Requirements include relevant laws, codes, other approvals and conditions, standards, agreements, treaties, conventions or practices (in whole or part) that apply to jurisdiction that the activity takes place in.

The activity is located within Commonwealth and Victorian waters. Table 2-2 and Table 2-3 detail the Victorian and Commonwealth requirements (respectively) and any codes or guidelines applicable to the activity.

This 5-year revision of the EP has been prepared to meet the requirements of both Victorian and Commonwealth legislation namely:

- The OPGGS Regulations (Vic), administered by DEECA; and
- The OPGGS(E) Regulations (Cwlth) administered by NOPSEMA.

The revision is a submission under Regulation 22 of the Vic OPGGS Regulations 2021, Regulation 41 and Regulation 39 of the Cwlth OPGGS (Environment) Regulations 2023.

Table 2-1 provides details of where the requirements of the Regulations have been addressed within this EP.

2.1 EPBC Act Requirements

This EP considers the impacts to matters of national environmental significance (MNES) protected under Part 3 of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Relevant requirements associated with the EPBC Act, related policies, guidelines, plans of management, recovery plans, threat abatement plans, and other relevant advice issued by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) are detailed in the applicable sections within Section 4 as part of the description of the existing environment.

Threatened species recovery plans, threat abatement plans and species conservation advices relevant to the receptors identified in Section 4 are detailed in Table 2-4.

2.2 Otway Development Approvals

The operations and activities described in this EP received EPBC Act Approval in two stages. Stage I, involving onshore, coastal and offshore construction and operations was approved as a controlled action (EPBC 2003/1295). Stage II, involving the drilling and tie-back of gas/condensate resources to the Casino infrastructure was assessed as not-controlled action (EPBC Ref 2006/2635 and EPBC Ref 2007/3767). EPBC 2007/3767 also included provision for four (4) exploration wells within VIC/P44 (one of which has been drilled).

While outside the scope of this EP, the EPBC Act decisions and installed infrastructure provide for the integration of infill gas/condensate resources to the Otway infrastructure by virtue of multiple additional tie-in points within the installed pipelines.

Table 2-1: Requirements of the Regulations

OPGGS(E) Regulations (Cwlth)	OPGGS Regulation (Vic)	Description	Document section
21 (1)	15 (1)	A description of proposed activities.	Section 3
21 (2) and (3)	15 (2)	A description of the existing environment that may be affected by the activity including details of matters of National Ecological Significance (NES) as outlined under Part 3 of the EPBC Act.	Section 4
21 (4), 22 (16)	15 (3)(a) and 15 (3)(b)	An overview of the environment legislation applicable to the proposed activities and a demonstration of how they are met.	Section 2 (this section)

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

OPGGS(E) Regulations (Cwlth)	OPGGS Regulation (Vic)	Description	Document section
21 (5) and (6)	15 (3)(c) and 15 (3)(d) and 15 (3)(e) 15 (4)	An identification and evaluation of environmental risks of described activities and details of control measures that will be used to reduce impacts and risks to ALARP and an acceptable level, for both planned and unplanned activities.	Section 6 and 7
21 (7)	15 (5)	The environmental performance outcomes, standards and measurement criteria that apply to both planned and unplanned activities.	Section 9
22 (1) and (7)	16(1) and (2)	An appropriate implementation strategy including reporting arrangements to the Regulator in relation to environmental performance.	Section 10
22 (2)	16 (3)	A description of the environmental management system and measures to ensure that impacts and risks are continually identified and reduced, control measures are effective in reducing impacts and risks, and that performance outcomes and standards are being met.	Section 10
22 (3) and (4)	16(4) and (5)	Details of role and responsibilities of personnel in relation to implementation, management and review of this Plan, including measures to ensure personnel are aware of their responsibilities.	Section 10
22 (5), 51	16 (6)	Details of monitoring, recording, auditing, management of conformance and review of environmental performance.	Section 10
22 (6)	16 (7)	Details of monitoring and maintenance of quantitative records for emissions and discharges.	Section 10
22 (8)	NA	Details of the Oil Pollution Emergency Plan (OPEP), provision for its updating, inclusion of arrangements for monitoring and responding to oil pollution and details of testing of the plan.	Section 7 and Section 10
NA	17 (1) and (2) and (3)	An environmental emergency response manual that describes emergency response arrangements, is maintained, kept up to date, and tested	Cooper Energy Offshore Victorian OPEP (VIC- ER-EMP- 0001)
24(c), 48, 50	19 (c)	Details of reportable incidents in relation to the activity, procedures for reporting and notifying reportable and recordable incidents.	Section 10
25, 22 (15) and 24 (b)	13 (f), 16 (8) and 19 (b)	Details of stakeholder consultation that has been undertaken prior to, and during preparation of the EP, including all correspondence.	Section 11
23 (1), (2) and (3)	18 (1) and (2)	Details of the titleholder and an appropriate nominated liaison person, including arrangements for notifying the Regulator should this change.	Section 1.5 and Section 10
24 (a)	19 (a)	Details of the titleholders' environmental policy.	Section 10

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 2-2: Summary of Victorian environmental legislation and Guidelines relevant to Otway Operations

Legislation / Regulation	Scope	Application to Activity	Administering Authority
<i>Emergency Management Act 2013</i>	Provides for the establishment of governance arrangements for emergency management in Victoria, including the Office of the Emergency Management Commissioner and an Inspector-General for Emergency Management. Provides for integrated and comprehensive prevention, response and recovery planning, involving preparedness, operational co-ordination and community participation, in relation to all hazards. These arrangements are outlined in the Emergency Management Manual Victoria.	Emergency response structure for managing emergency incidents within Victorian waters. Emergency management structure will be triggered in the event of a diesel spill originating from or entering state waters. <i>Emergency response arrangements are detailed in the OPEP.</i>	Department of Justice and Regulation (Inspector General for Emergency Management)
<i>Environment Protection Act 1970 & amendments (& various regulations)</i> <i>[REPEALED]</i>	This Act was repealed on 1 July 2021 by section 63 of the Environment Protection Amendment Act 2018, No. 39/2018 (as amended by No. 11/2020).	None. Applicable to previous versions of this EP and historical activities.	EPA
<i>Environment Protection Act 2017 (the 2017 Act) (& 2021 Regulations)</i>	This Act: came into effect on 1 July 2021 and is aimed at preventing harm to public health and the environment from pollution and waste. It: - provides for General Environmental Duty within Victorian jurisdiction to minimise risks of harm to human health and the environment from pollution or waste. - establishes a permissions scheme that enables EPA to issue or grant development licences, operating licences etc. - deals with the management of waste, pollution events, potential contamination (e.g., contaminated soils and mercury) - enables the EPA and authorised officers to ensure compliance with the Act - provides for a system of criminal and civil penalties - implements relevant articles of the Minamata Convention on Mercury within Victoria, including: • Emissions	GED within Victorian jurisdiction. Athena gas plant operations. Activities, including management of emissions to air and discharges are subject to an operating licence issued by the EPA. Management of all wastes in Victoria will comply with these requirements.	EPA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Legislation / Regulation	Scope	Application to Activity	Administering Authority
	- Releases - Environmentally sound interim storage of mercury, other than waste mercury - Mercury wastes - Contaminated sites.		
<i>Flora and Fauna Guarantee Act 1988 (FFG Act) (& Regulations 2011)</i>	The purpose of this Act is to protect rare and threatened species; and enable and promote the conservation of Victoria's native flora and fauna and to provide for a choice of procedures that can be used for the conservation, management or control of flora and fauna and the management of potentially threatening processes. Where a species has been listed as threatened an Action statement is prepared setting out the actions that have or need to be taken to conserve and manage the species and community.	The EP must assess any actual or potential impacts or risks to rare and threatened species and apply controls in line with any Action Statements. <i>Section 4.4.2 identifies any rare or threatened species that maybe impacted by the activity.</i> <i>Section 6 and 7 assess potential impacts and risks to rare and threatened species and applies applicable Action Statement controls.</i>	Department of Energy, Environment and Climate Action (DEECA)
<i>Heritage Act 1995 (& Heritage (Historical Shipwrecks) Regulations 2007)</i>	The purpose of the Act is to provide for the protection and conservation of historic places, objects, shipwrecks and archaeological sites in state areas and waters (complementary legislation to Commonwealth legislation). Part 5 of the Act is focused on historic shipwrecks, which are defined as the remains of all ships that have been situated in Victorian waters for 75 years or more. The Act addresses, among other things, the registration of wrecks, establishment of protected zones, and the prohibition of certain activities in relation to historic shipwrecks.	Identification of historic places, objects, shipwrecks and archaeological sites in State waters that may be impacted by the activity and reporting of any identified historic places, objects, shipwrecks and archaeological sites or impacts to them. <i>Section 4.4.3 identifies known historic places, objects, shipwrecks and archaeological sites.</i> <i>Section 6 and 7 assess potential impacts and risks to historic places, objects, shipwrecks and archaeological sites from the activity.</i> <i>Section 10.13 details reporting requirements.</i>	Heritage Victoria (DEECA)
<i>Marine and Coastal Act 2018</i>	Consent for use and development of coastal crown land within Victorian Waters and within 200 metres inland of the highwater mark. This consent usually takes place prior to construction activities. A person may apply for a consent to use or develop, or undertake works on, marine and coastal Crown land.	Activities (e.g., modification) to the shore crossing (HDD) may require consent.	DEECA and Parks Victoria

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Legislation / Regulation	Scope	Application to Activity	Administering Authority
<i>Marine (Drug, Alcohol and Pollution Control) Act 1988 (& Regulations 2012)</i>	This Act provides for the prohibition of masters and other persons involved in vessel operations from being under the influence of prescribed drugs or alcohol; defines prohibited discharges (refer to Pollution of Waters by Oil and Noxious Substances Act 1986); and allocates roles, responsibilities and liabilities to ensure there is a capacity and obligation (i.e., Director – Transport Safety, public statutory body) to respond to marine incidents which have the potential, or do, result in pollution.	Applies to vessel masters, owners, crew operating vessels in Victorian State waters. Provides the Victorian Government response structure and contingency planning arrangements for marine pollution incidents in Victorian waters (i.e., Victorian Marine Pollution Contingency Plan aka State Maritime Emergencies (non-search and rescue) Plan) that Cooper must observe for vessel incidents.	DEECA
<i>Marine Safety Act 2010 (& Regulations 2012)</i>	Act provides for safe marine operations in Victoria of including imposing safety duties on owners, managers and designers of vessels, marine infrastructure and marine safety equipment; marine safety workers, masters and passengers on vessels; regulation and management of vessel use and navigation in State waters; and enforcement provisions of Police Officers and the Victorian Director of Transport Safety. This Act reflects the requirements of international conventions - Convention on the International Regulations for Preventing Collisions at Sea & International Convention for the Safety of Life at Sea (SOLAS). The Act also defines marine incidents and the reporting of such incidents to the Victorian Director of Transport Safety.	Applies to vessel masters, owners, crew operating vessels in Victorian State waters. <i>Section 6 details the requirements applicable to vessel activities.</i>	Maritime Safety Victoria
<i>Offshore Petroleum and Greenhouse Gas Storage Act 2010 (OPGGSA) (& Regulations 2021)</i>	Addresses all licensing, health, safety, environmental and royalty issues for offshore petroleum exploration and development operations in Victorian coastal waters (between the low water mark and the 3 nm limit). This Act and its Regulations (Section 2 – Environment) are similar to the Commonwealth Act and Regulations of the same name, however, have not been modified to align with most recent revisions of the Commonwealth Act and regulations and hence variations between jurisdictions exist. The preparation of this EP satisfies the requirement of Section 2 of the OPGGS Regulations. Section 61 of the Act (Principles of sustainable development) states that the administration of the Act should consider the principles of	Triggered for petroleum activities within State waters. <i>Demonstration that the activity will be undertaken in line with the principles of ecologically sustainable development and in accordance with an EP with appropriate performance objectives and standards is provided in Sections 9.</i> <i>Cooper Energy's implementation strategy is detailed in Section 10.</i> <i>Stakeholder consultation undertaken is detailed in Section 11.</i>	DEECA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Legislation / Regulation	Scope	Application to Activity	Administering Authority
	sustainable development. These principles include involving the community in issues that affect them. To this extent, the stakeholder consultation undertaken (described in Section 10), satisfies this requirement.		
<i>Pollution of Waters by Oil and Noxious Substances Act 1986 (POWBONS) (& Regulations 2012)</i>	The purpose of the Act is to protect the sea and other waters from pollution by oil and noxious substances. This Act also implements the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973 in State waters (see Table 3 3). The Act requires the mandatory reporting of marine pollution incidents and restricts various discharges within State waters (see Table 3 3).	Triggered in the event of a diesel spill originating from or entering Victorian state waters. <i>Section 6 details the requirements applicable to vessel activities.</i> <i>Section 10 details reporting requirements.</i>	Jointly administered by DEECA and EPA
<i>Wildlife Act 1975 (& Regulations 2013)</i>	The purpose of this Act is to promote the protection and conservation of wildlife, prevent wildlife from becoming extinct and prohibit and regulate persons authorised to engage in activities relating to wildlife (including incidents). The Wildlife (Marine Mammal) Regulations 2009 prescribe minimum distances to whales and seals/seal colonies, restrictions on feeding/touching and restriction of noise within a caution zone of a marine mammal (dolphins (150m), whales (300m) and seals (50m)).	Prescribed minimum proximity distances to whales, dolphins and seals by vessels are included in this EP. Triggered if an incident results in the injury or death of whales, dolphins or seals. <i>Sections 9 details proximity requirements in relation to vessel operations.</i> <i>Section 10 details reporting requirements.</i>	DEECA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 2-3: Summary of Commonwealth Environmental Legislation and Guidelines relevant to Otway Offshore Operations

Legislation / Regulation	Scope	Application to Activity	Administering Authority
Australian Ballast Water Management Requirements (CoA 2020)	The Australian Ballast Water Management Requirements set out the obligations on vessel operators with regards to the management of ballast water and ballast tank sediment when operating within Australian seas.	Provides requirements on how vessel operators should manage ballast water when operating within Australian seas to comply with the Biosecurity Act. <i>Section 6.6 details these requirements in relation to the management of ballast water.</i>	Department of Agriculture, Water and the Environment (DAFF)
Australia Biofouling Management Requirements (DAFF 2022)	The Australian biofouling management requirements set out vessel operator obligations for the management of biofouling when operating vessels under biosecurity control within Australian territorial seas.	Provides requirements on how vessel operators should manage biofouling when operating within Australian seas to comply with the Biosecurity Act. <i>Section 6.6 details these requirements in relation to the management of biofouling water.</i>	Department of Agriculture, Water and the Environment (DAFF)
Australian Maritime Safety Authority Act 1990	Facilitates international cooperation and mutual assistance in preparing and responding to major oil spill incidents and encourages countries to develop and maintain an adequate capability to deal with oil pollution emergencies.	In Commonwealth waters AMSA is the Statutory Agency for vessels and must be notified of all incidents involving a vessel. In Commonwealth waters AMSA is the Control Agency for all ship-sourced marine pollution incidents and will respond in accordance with the National Plan for Maritime Environmental Emergencies. Under the National Plan AMSA support oil spill response for non-ship sourced pollution incidents on the formal request of the respective incident controller. <i>These arrangements are detailed in Cooper Victorian Oil Pollution Emergency Plan (OPEP) (VIC-EPER-EMP-0001).</i>	Australian Maritime Safety Authority (AMSA)
Biosecurity Act 2015 (& Regulations 2016)	The objects of this Act are: (a) to provide for managing the following:	The Biosecurity Act and regulations apply to 'Australian territory' which is the airspace over	DAFF

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Legislation / Regulation	Scope	Application to Activity	Administering Authority
	(i) biosecurity risks. (ii) the risk of contagion of a listed human disease. (iii) the risk of listed human diseases entering Australian territory or a part of Australian territory, or emerging, establishing themselves or spreading in Australian territory or a part of Australian territory. (iv) risks related to ballast water. (v) biosecurity emergencies and human biosecurity emergencies. (b) to give effect to Australia's international rights and obligations, including under the International Health Regulations, the SPS Agreement and the Biodiversity Convention.	and the coastal seas out to 12 nm from the coast line. For the activity it regulates vessels entering Australian territory regarding ballast water and hull fouling. <i>Biosecurity risks associated with the activity are detailed in Section 6.6.</i>	
<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	The Act aims to: - Protect matters of national environmental significance (MNES). - Provides for Commonwealth environmental assessment and approval processes; and - Provides an integrated system for biodiversity conservation and management of protected areas. MNES are: - World heritage properties. - RAMSAR wetlands. - Listed threatened species and communities. - Migratory species under international agreements. - Nuclear actions, - Commonwealth marine environment. - Great Barrier Reef Marine Park; and - Water trigger for coal seam gas and coal mining developments. The assessment process is overseen by NOPSEMA as the delegated authority under the EPBC Act.	Petroleum activities are excluded from within the boundaries of a World Heritage Area (Sub regulation 10A(f). <i>The activity is not within a World Heritage Area.</i> The EP must describe matters protected under Part 3 of the EPBC Act and assess any impacts and risks to these. <i>Section 4 describes matters protected under Part 3 of the EPBC Act.</i> The EP must assess any actual or potential impacts or risks to MNES from the activity. <i>Section 6 and Section 7 provides an assessment of any impacts and risks to matters protected under Part 3 of the EPBC Act.</i>	DCCEEW

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Legislation / Regulation	Scope	Application to Activity	Administering Authority
Environment Protection and Biodiversity Conservation Regulations 2000	Part 8 of the regulations provide distances and actions to be taken when interacting with cetaceans.	-	DCCEEW
<i>Environment Protection (Sea Dumping) Act 1981</i>	Aims to prevent the deliberate disposal of wastes (loading, dumping, and incineration) at sea from vessels, aircraft, and platforms.	May be triggered in the event equipment is decommissioned on the seabed. This is not the base case for planning purposes.	DCCEEW
<i>Hazardous Waste (Regulation of Exports and Imports) Act 1989</i>	To ensure the management of Australia's hazardous waste is exported, imported and transited in and environmentally sound manner.	The Basel Convention is implemented in Australia by the Act.	DCCEEW
Marine Pest Plan 2018 – 2023: National Strategic Plan for Marine Pest Biosecurity	Australia's national strategic plan for marine pest biosecurity. It outlines a coordinated approach to building Australia's capabilities to manage the threat of marine pests over the next five years. It represents agreed priorities and actions of governments, marine industries, and other stakeholders to achieve a common purpose: to manage the risks posed by marine pests and minimise their potential harm to marine industries, communities and the environment.	Applying the recommendations within this document and implementing effective biofouling controls can reduce the risk of the introduction of an introduced marine species. <i>Section 6.6 details the requirements applicable to vessel activities.</i>	DAFF
National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (COA, 2017a)	The overarching goal of the strategy is to provide guidance on understanding and reducing the risk of vessel collisions and the impacts they may have on marine megafauna. Project trigger: Applies to commercial vessels utilised for inspection and maintenance activities.	Applying the recommendations within this document and implementing effective controls can reduce the risk of the vessel collisions with megafauna.	DCCEEW
<i>Navigation Act 2012</i>	Regulates international ship and seafarer safety, shipping aspects of protecting the marine environment and the actions of seafarers in Australian waters. It gives effect to the relevant international conventions (MARPOL 73/78, COLREGS 1972) relating to maritime issues to which Australia is a signatory. The Act also has subordinate legislation contained in Regulations and Marine Orders.	All ships involved in petroleum activities in Australian waters are required to abide to the requirements under this Act. Several Marine Orders (MO) are enacted under this Act which relate to offshore petroleum activities, including: MO 21: Safety and emergency arrangements MO 30: Prevention of collisions MO 31: SOLAS and non-SOLAS certification	AMSA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Legislation / Regulation	Scope	Application to Activity	Administering Authority
<i>Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act 2006</i> Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations (OPGGS(E)R 2023	The Act addresses all licensing, health, safety, environmental and royalty issues for offshore petroleum exploration and development operations extending beyond the three-nautical mile limit. Part 4 of the OPGGS(E) Regulations specifies that an EP must be prepared for any petroleum activity and that activities are undertaken in an ecologically sustainable manner and in accordance with an accepted EP.	Section 6 and Section 7 details the requirements applicable to vessel activities. The OPGGS Act provides the regulatory framework for all offshore petroleum exploration and production activities in Commonwealth waters, to ensure that these activities are carried out: Consistent with the principles of ecologically sustainable development as set out in section 3A of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). So that environmental impacts and risks of the activity are reduced to ALARP. So that environmental impacts and risks of the activity are of an acceptable level. <i>Demonstration that the activity will be undertaken in line with the principles of ecologically sustainable development, and that impacts and risks resulting from these activities are ALARP and acceptable is provided in Section 6 and Section 7.</i>	NOPSEMA
<i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i>	The Act aims to protect the marine environment from pollution by oil and other harmful substances discharged from ships in Australian waters. It also invokes certain requirements of the MARPOL Convention such as those relating to discharge of noxious liquid substances, sewage, garbage and air pollution. Requires ships greater than 400 gross tonnes to have pollution emergency plans in place and provides for emergency discharges from ships.	All ships involved in petroleum activities in Australian waters are required to abide to the requirements under this Act. Several MOs are enacted under this Act relating to offshore petroleum activities, including: MO Part 91: Marine Pollution Prevention – Oil MO Part 93: Marine Pollution Prevention – Noxious Liquid Substances	AMSA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Legislation / Regulation	Scope	Application to Activity	Administering Authority
		MO Part 94: Marine Pollution Prevention – Packaged Harmful Substances in Packaged Forms MO Part 95: Marine Pollution Prevention – Garbage MO Part 96: Marine Pollution Prevention – Sewage MO Part 97: Marine Pollution Prevention – Air Pollution MO Part 98: Marine Pollution Prevention – Anti-fouling Systems. Section 6 details the requirements applicable to vessel activities.	
<i>Protection of the Sea (Harmful Antifouling Systems) Act 2006</i>	The Act aims to protect the marine environment from the effects of harmful anti-fouling systems. Under this Act, it is an offence to engage in negligent conduct that results in a harmful anti-fouling compound being applied to a ship. This Act also requires that Australian ships must hold 'anti-fouling certificates', provided they meet certain criteria.	All ships involved in offshore petroleum activities in Australian waters are required to abide to the requirements under this Act. The Marine Order MO 98: Marine Pollution Prevention – Anti-fouling Systems is enacted under this Act. Section 6 details the requirements applicable to vessel activities.	AMSA
<i>Underwater Cultural Heritage Act 2018</i>	Protects the heritage values of shipwrecks, sunken aircraft and other underwater cultural heritage (older than 75 years) below the low water mark.	Anyone who finds the remains of a ship, sunken aircraft or other underwater cultural heritage article needs to notify the relevant authorities, as soon as possible but ideally no later than after one week, and to give them information about what has been found and its location. Section 5 details that there are no historic wrecks near or within the operational area.	DCCEEW

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 2-4 Recovery plans, threat abatement plans and species conservation advices

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Fish					
Australian Grayling	National Recovery Plan for Australian Grayling	The overall objective of recovery is to minimise the probability of extinction of the Australian Grayling in the wild, and to increase the probability of important populations becoming self-sustaining in the long term. Relevant specific objectives within the lifespan of the recovery plan are: • Protect and restore habitat for Australian Grayling • Investigate and manage threats to populations and habitats	Climate Change	No explicit relevant management actions; climate change identified as a threat.	Section 6.4
	Conservation Advice <i>Prototroctes maraena</i> Australian Grayling	No explicit relevant objectives	Climate Change	No explicit relevant management actions; climate change identified as a threat.	Section 6.4
White Shark	Recovery Plan for the White Shark (<i>Carcharodon carcharias</i>)	The overarching objective of this recovery plan is to assist the recovery of the white shark in the wild throughout its range in Australian waters with a view to: • Improving the population status leading to future removal of the white shark from the threatened species list of the EPBC Act • Ensuring that anthropogenic activities do not hinder recovery in the near future, or impact on the conservation status of the species in the future.	Habitat modification	No explicit relevant management actions; habitat modification identified as a threat.	Section 6.3
			Climate Change	No explicit relevant management actions; climate change identified as a threat.	Section 6.4

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
		The specific objectives of the recovery plan (relevant to industry) are: Objective 7: Continue to identify and protect habitat critical to the survival of the white shark and minimise the impact of threatening processes within these areas.			
Yarra Pygmy Perch	National recovery plan for the Yarra Pygmy Perch (<i>Nannoperca obscura</i>)	The long-term objective of recovery is to minimise the probability of extinction and ensure long-term survival of Yarra Pygmy Perch in the wild and to increase the probability of important populations becoming self-sustaining in the long term.	Climate Change	No explicit relevant management actions; climate change identified as a threat.	Section 6.4
Marine Turtles					
All Marine Turtles including: - Loggerhead Turtles - Green Turtles - Leatherback Turtles	Recovery Plan for Marine Turtles in Australia, 2017 – 2027	Long-term recovery objective: - Minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list. Interim objective 3: - Anthropogenic threats are demonstrably minimised.	Chemical and Terrestrial Discharge	Minimise chemical and terrestrial discharge.	Section 6.2.1
			Marine debris	Reduce the impacts from marine debris: Support the implementation of the EPBC Act Threat Abatement Plan for the impacts of marine debris on vertebrate marine life.	Section 6.2.2
			Noise interference	Assess and address anthropogenic noise: Understand the impacts of anthropogenic noise on marine turtle behaviour and biology.	Section 6.5.5
			Light interference	Minimise light pollution:	Section 6.2.1

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
				- Artificial light within or adjacent to habitat critical to the survival of marine turtles will be managed such that marine turtles are not displaced from these habitats. - Develop and implement best practice light management guidelines for existing and future developments adjacent to marine turtle nesting beaches. - Identify the cumulative impact on turtles from multiple sources of onshore and offshore light pollution.	
			Vessel disturbance	Vessel interactions identified as a threat; no specific management actions in relation to vessels prescribed in the plan.	Section 6.2.2
			Habitat modification	Manage anthropogenic activities to ensure marine turtles are not displaced from identified habitat critical to their survival. Manage anthropogenic activities in Biologically Important Areas to ensure that biologically important behaviour can continue.	Section 6.6.5
			Disease and pathogens	No explicit management actions; disease and pathogens recognised as a threat.	Section 6.7
			Climate Change and variability	Adaptively manage turtle stocks to reduce risk and build resilience to climate change and variability:	Section 6.4

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
				- Continue to meet Australia's international commitments to address the causes of climate change. - Identify, test and implement climate-based adaptation measures.	
	National Light Pollution Guidelines for Wildlife	Lighting objectives will need to consider the regulatory requirements and Australian standards relevant to the activity, location and wildlife present. Objectives should be described in terms of specific locations and times for which artificial light is necessary. Consideration should be given to whether colour differentiation is required and if some areas should remain dark – either to contrast with lit areas or to avoid light spill. Where relevant, wildlife requirements should form part of the lighting objectives. A lighting installation will be deemed a success if it meets the lighting objectives (including wildlife needs) and areas of interest can be seen by humans clearly, easily, safely and without discomfort.	Light pollution	Best practice lighting design incorporates the following design principles: - Start with natural darkness and only add light for specific purposes. - Use adaptive light controls to manage light timing, intensity and colour. - Light only the object or area intended – keep lights close to the ground, directed and shielded to avoid light spill. - Use the lowest intensity lighting appropriate for the task. - Use non-reflective, dark-coloured surfaces. - Use lights with reduced or filtered blue, violet and ultra-violet wavelengths.	Section 6.2.1
Leatherback Turtle	Approved Conservation Advice for <i>Dermochelys</i>	No explicit relevant objectives	Boat strike	No explicit relevant management actions; vessel strikes identified as a threat.	Section 6.2.2

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
	<i>coriacea</i> (Leatherback Turtle)		Habitat degradation (changes to breeding sites and degradation to foraging areas)	Identify and protect migratory corridors between nesting beaches and common foraging areas to facilitate colonization.	Section 6.6.5
			Marine debris	No explicit relevant management actions; marine debris identified as a threat.	Section 6.2.2
			Climate Change	No explicit relevant management actions; climate change identified as a threat.	Section 6.4
Migratory shorebirds and seabirds					
All Threatened Albatross and Petrels including: - Shy Albatross - Northern Royal Albatross - Southern Giant Petrel - Grey-headed Albatross - Southern Royal Albatross - Wandering Albatross - Gibson's Albatross - Northern Buller's Albatross - Buller's Albatross - Indian Yellow-nosed Albatross - White-capped Albatross - Antipodean Albatross - White-bellied Storm Petrel - Soft-plumaged Petrel	National Recovery Plan for Albatrosses and Petrels, 2022	Overall objective: - To improve the conservation status of albatrosses and petrels so that these species are on a trajectory towards no longer being threatened in Australia's jurisdiction. Specific objective: - The objective will be achieved if within three generations (60 years approx.) there is a measurable and sustained positive population trend (compared to 2021 baseline counts) in the number of mature individuals within the Australian breeding populations of albatross and petrel species within the recovery plan.	Marine pollution	Where feasible, population monitoring programs also monitor, in a standardised manner, the incidence of oiled birds at the nest.	Section 6.6.5
			Parasites and Disease	No explicit management actions; parasites and disease recognised as a threat.	Section 6.6
			Climate Change	Where climate change is identified as having the potential for significant negative impacts on Australian populations of seabirds: - Appropriate monitoring strategies are implemented to fill information gaps - Mitigation actions are identified and adopted where feasible and appropriate.	Section 6.4

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
- Blue Petrel - Sooty Albatross - Salvin's Albatross - Campbell Albatross - Northern Giant Petrel - Black-browed Albatross					
All Migratory Shorebirds	Wildlife Conservation Plan for Migratory Shorebirds – 2015	Anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated.	Habitat degradation / modification (oil pollution) Anthropogenic disturbance	No explicit relevant management actions; identified as a threat. Investigate the significance of cumulative impacts on migratory shorebird habitat and populations in Australia. Ensure all areas important to migratory shorebirds in Australia continue to be considered in development assessment processes (specifically for coastal developments).	Section 6.6.5 Section 6.2.1
			Climate Change	Investigate the impacts of climate change on migratory shorebird habitat and populations in Australia.	Section 6.4
All Seabirds	Draft Wildlife Conservation Plan for Seabirds	Seabirds and their habitats are protected and managed in Australia.	Pollution (marine debris, light, water)	Enhance contingency plans to prevent and/or respond to environmental emergencies that have an impact on seabirds and their habitats.	Section 6.2.1 and Section 6.2.2
			Habitat loss and degradation from pollution	No explicit relevant management actions; identified as a threat.	Section 6.6.5

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
All Seabirds and Migratory Shorebirds	National Light Pollution Guidelines for Wildlife	Lighting objectives will need to consider the regulatory requirements and Australian standards relevant to the activity, location and wildlife present. Objectives should be described in terms of specific locations and times for which artificial light is necessary. Consideration should be given to whether colour differentiation is required and if some areas should remain dark – either to contrast with lit areas or to avoid light spill. Where relevant, wildlife requirements should form part of the lighting objectives. A lighting installation will be deemed a success if it meets the lighting objectives (including wildlife needs) and areas of interest can be seen by	Anthropogenic disturbance	Ensure all areas of important habitat for seabirds are considered in the development assessment process. Manage the effects of anthropogenic disturbance to seabird breeding and roosting areas.	Section 6.2.1
			Invasive species	Ensure seabirds are protected from the adverse effects of invasive species.	Section 6.6
			Climate Change	No explicit relevant management actions; identified as a threat.	Section 6.4
			Light pollution	Best practice lighting design incorporates the following design principles: • Start with natural darkness and only add light for specific purposes. • Use adaptive light controls to manage light timing, intensity and colour. • Light only the object or area intended – keep lights close to the ground, directed and shielded to avoid light spill. • Use the lowest intensity lighting appropriate for the task. • Use non-reflective, dark-coloured surfaces. • Use lights with reduced or filtered blue, violet and ultra-violet wavelengths.	Section 6.2.1

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Australasian Bittern	Approved Conservation Advice for Botaurus poiciloptilus (Australasian bittern)	The objective of this conservation advice is to provide guidance for actions that will expand the range and the number of Australasian Bitterns in Australia.	humans clearly, easily, safely and without discomfort.		
			Habitat loss and degradation	No explicit relevant management actions; habitat loss and degradation recognised as a threat.	Section 6.6.5
			Climate Change	No explicit relevant management actions; climate change recognised as a threat.	Section 6.4
Red Knot	Approved Conservation Advice for <i>Calidris canutus</i> (Red Knot)	No explicit relevant objectives	Pollution/contamination impacts	No explicit relevant management actions; pollution / contamination recognised as a threat.	Section 6.2.1 and Section 6.6.5
			Habitat loss and degradation	Protect important habitat in Australia. Maintain and improve protection of roosting and feeding sites in Australia	Section 6.6.5
			Anthropogenic disturbance	Manage disturbance at important sites which are subject to anthropogenic disturbance when red knot are present.	Section 6.2.1
			Climate Change	No explicit relevant management actions; climate change recognised as a threat.	Section 6.4
Curlew Sandpiper	Approved Conservation Advice for <i>Calidris ferruginea</i> (Curlew Sandpiper)	Australian Objective: • Reduce disturbance at key roosting and feeding sites	Habitat loss and degradation from pollution	No explicit relevant management actions; oil pollution recognised as a threat.	Section 6.6.5
Greater Sand Plover	Approved Conservation Advice	No explicit relevant objectives	Habitat loss and degradation	Identifies research priorities and the need for actions to prevent	Section 6.6.5

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
	Approved Conservation Advice for <i>Charadrius leschenaultia</i> (Greater Sand Plover)			destruction of key breeding and migratory staging sites. Protect important habitat in Australia.	
			Pollution and contamination	No explicit relevant management actions; pollution / contaminants recognised as a threat.	Section 6.2.1 and Section 6.6.5
			Introduced Species	No explicit relevant management actions; introduced species recognised as a threat.	Section 6.6
			Disease	No explicit relevant management actions; disease recognised as a threat.	Section 6.6
			Climate Change	No explicit relevant management actions; climate change recognised as a threat.	Section 6.4
Blue Petrel	Approved Conservation Advice for <i>Halobaena caerulea</i> (Blue Petrel)	No explicit relevant objectives	Habitat Loss, Disturbance and Modification	No explicit relevant management actions; habitat loss, disturbance and modification recognised as a threat.	Section 6.6.5
Bar-tailed Godwit	Approved Conservation Advice for <i>Limosa lapponica baueri</i> (Bar-tailed Godwit (western Alaskan))	No explicit relevant objectives	Habitat loss and degradation from pollution Pollution and contamination Climate Change	Protect important habitat in Australia. No explicit relevant management actions; pollution / contaminants recognised as a threat. No explicit relevant management actions; climate change recognised as a threat.	Section 6.6.5 Section 6.2.1 and Section 6.6.5 Section 6.4

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Eastern Curlew	Approved Conservation Advice for <i>Numenius madagascariensis</i> (Eastern Curlew)	Australian objectives: • Achieve a stable or increasing population. • Maintain and enhance important habitat. • Reduce disturbance at key roosting and feeding sites.	Habitat loss and degradation from pollution	No explicit relevant management actions; habitat loss and degradation recognised as a threat.	Section 6.6.5
Fairy Prion (southern)	Approved Conservation Advice for <i>Pachyptila subantarctica</i> (Fairy Prion (southern))	No explicit relevant objectives	Habitat Loss, Disturbance and Modification	No explicit management actions; habitat loss, disturbance and modification recognised as a threat.	Section 6.6.5
Australian Painted Snipe	Approved Conservation Advice for <i>Rostratula australis</i> (Australian painted snipe)	No explicit relevant objectives	Habitat loss disturbance and modifications	Habitat recovery actions are a priority.	Section 6.6.5
Australian Fairy Tern	Approved Conservation Advice for <i>Sternula nereis</i> (Australian Fairy Tern)	No explicit relevant objectives	Oil spills, particularly in Victoria	Ensure appropriate oil spill contingency plans are in place for the subspecies' breeding sites that are vulnerable to oil spills.	Section 6.6.5
	National Recovery Plan for (<i>Sternula nereis nereis</i>) (Australian Fairy Tern)	Long-term Vision: • The Australian Fairy Tern population has increased in size to such an extent that the species no longer qualifies for listing as threatened under any of the Environment Protection	Habitat degradation and loss of breeding habitat Pollution	No explicit management actions; habitat degradation and loss of breeding habitat recognised as a threat. No explicit management actions; pollution recognised as a threat.	Section 6.6.5 Section 6.6.5

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Grey-headed Albatross	Approved Conservation Advice for <i>Thalassarche Chrysostoma</i> , Greyheaded Albatross)	No explicit relevant objectives	Climate variability and change	No explicit management actions; climate change recognised as a threat.	Section 6.4
			Parasites and Disease	Continue to implement suitable hygiene and biosecurity protocols to protect Macquarie Island from outbreaks of disease/fungus/parasites which could potentially be introduced to the island by humans.	Section 6.6
			Pollution	No explicit management actions; pollution recognised as a threat.	Section 6.6.5
			Entanglement in Marine Debris	No explicit management actions; marine debris recognised as a threat.	Section 6.2.2
			Climate Change	No explicit management actions; climate change recognised as a threat.	Section 6.4
Shy Albatross	Conservation Advice <i>Thalassarche cauta</i> Shy Albatross	Refer to objectives in the National Recovery Plan for Albatrosses and Petrels 2022	Marine Pollution	No explicit management actions; marine pollution recognised as a threat.	Section 6.6.5
			Disease	No explicit relevant management actions; disease recognised as a threat.	Section 6.6
			Climate Change	No explicit relevant management actions; climate change recognised as a threat.	Section 6.4
Hooded Plover (eastern)	Approved Conservation Advice for <i>Thinornis</i>	Primary Conservation Objectives: Achieve stable numbers of adults in the population, and	Oil spills	Prepare oil spill response plans to ensure effective rehabilitation of oiled birds.	Section 6.6.5

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
	rubricollis (Hooded Plover, Eastern)	maintain a stable number of occupied and active breeding territories	Entanglement and Ingestion of Marine Debris	Reduce in-shore marine debris	Section 6.2.2
		Maintain, enhance and restore habitat, and integrate the subspecies' needs into coastal planning	Invasive Species	No explicit management actions; invasive species recognised as a threat.	Section 6.6
			Climate Change	No explicit management actions; climate change recognised as a threat.	Section 6.4
Gould's Petrel	Gould's Petrel (<i>Pterodroma leucoptera leucoptera</i>) Recovery Plan	The overall objective of the Gould's Petrel recovery effort is for Gould's Petrel to be down listed from endangered to vulnerable by 2011. Specific recovery objectives are: To identify and manage the threats operating at sites where the subspecies occurs	None identified	NA	NA
Swift Parrot	National Recovery Plan for the <i>Lathamus discolor</i> (swift parrot)	Overall objectives: - To prevent further decline of the Swift Parrot population. - To achieve a demonstrable sustained improvement in the quality and quantity of Swift Parrot habitat to increase carrying capacity.	Climate Change	Monitor and manage for climate change: Investigate the potential impact of climate change on the Swift Parrot and its habitat.	Section 6.4
Orange-bellied Parrot	Conservation Advice <i>Lathamus discolor</i> Swift Parrot	No explicit relevant objectives	None identified	NA	NA
	National Recovery Plan for the Orange-	The three primary objectives of this Recovery Plan are based on the	Habitat degradation and modification	Retain habitat Manage threats to habitat quality	Section 6.6.5

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
	bellied Parrot (<i>Neophema chrysogaster</i>)	recovery strategy outlined above, while the fourth, supporting objective is essential in order to achieve the three primary objectives:		Monitor the wild population and habitat	
		Objective 1. To achieve a stable or increasing population in the wild within five years.	Barriers to migration and movement	No explicit relevant management actions; barriers to migration recognised as a threat.	Section 6.2.1
		Objective 2. To increase the capacity of the captive population, both to support future releases of captive-bred birds to the wild and to provide a secure long term insurance population.	Disease	No explicit relevant management actions; disease recognised as a threat.	Section 6.6
		Objective 3. To protect and enhance habitat to maintain, and support growth of, the wild population.	Climate Change	No explicit relevant management actions; climate change impacts recognised as a threat.	Section 6.4
		Objective 4. To ensure effective adaptive implementation of the plan.			
Grey Falcon	Conservation Advice <i>Falco hypoleucos</i> Grey Falcon	No explicit relevant objectives	Climate Change	No explicit relevant management actions; climate change impacts recognised as a threat.	Section 6.4
White-throated Needletail	Conservation Advice <i>Hirundapus White-throated</i> Needletail	No explicit relevant objectives	NA	NA	NA
Cetaceans					
Sei Whale	Approved Conservation Advice	Determine population abundance, trends and population structure for sei whales, and establish a long-term	Vessel disturbance	Minimising vessel collisions: Develop a national vessel strike strategy that investigates the risk of vessel strikes on Sei Whales	Section 6.2.2

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
	for <i>Balaenoptera borealis</i> (Sei Whale)	monitoring program in Australian waters.		- and also identifies potential mitigation measures. - Ensure all vessel strike incidents are reported in the National Vessel Strike Database.	
			Noise interference	Once the spatial and temporal distribution (including biologically important areas) of Sei Whales is further defined, assess the impacts of increasing anthropogenic noise (including seismic surveys, port expansion, and coastal development).	Section 6.5.5
			Habitat degradation	No explicit relevant management actions; habitat degradation identified as a threat.	Section 6.6.5
			Pollution (persistent toxic pollutants)	No explicit relevant management actions; pollution identified as a threat.	Section 6.6.5
			Climate and Oceanographic Variability and Change	Understanding impacts of climate variability and change: Continue to meet Australia's international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica.	Section 6.4
Fin Whale	Approved Conservation Advice for <i>Balaenoptera physalus</i> (Fin Whale)	Determine population abundance, trends and population structure for fin whales, and establish a long-term monitoring program in Australian waters.	Vessel disturbance	Develop a national vessel strike strategy that investigates the risk of vessel strikes on Fin Whales and identifies potential mitigation measures.	Section 6.2.2

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Blue Whale				Ensure all vessel strike incidents are reported in the National Vessel Strike Database.	
			Noise interference	Once the spatial and temporal distribution (including biologically important areas) of Fin Whales is further defined, assess the impacts of increasing anthropogenic noise (including seismic surveys, port expansion, and coastal development).	Section 6.5.5
			Habitat degradation	No explicit relevant management actions; habitat degradation identified as a threat.	Section 6.6.5
			Pollution (persistent toxic pollutants)	No explicit relevant management actions; pollution identified as a threat.	Section 6.6.5
			Climate and Oceanographic Variability and Change	Understanding impacts of climate variability and change: Continue to meet Australia's international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica	Section 6.4
			Noise interference	Assess and address anthropogenic noise: shipping, industrial and seismic noise.	Section 6.5.5
	Conservation Management Plan for the Blue Whale, 2015-2025	The long-term recovery objective is to minimise anthropogenic threats to allow the conservation status of the Blue Whale to improve so that it can be removed from the threatened species list under the EPBC Act.	Vessel disturbance	Minimise vessel collisions: Develop a national vessel strike strategy that investigates the risk of vessel strike on blue whales	Section 6.2.2

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Southern Right Whale	National Recovery Plan for the Southern Right Whale (Eubalaena australis) (DCCEEW, 2024)	Key terms of the Conservation Management Plan (CMP) and how they have been considered in this EP are provided in Table 2-5.		- and also identifies potential mitigation measures. - Ensure all vessel strike incidents are reported in the National Ship Strike Database. - Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented.	
			Habitat modification	No explicit relevant management actions; habitat modification identified as a threat.	Section 6.6.5
			Climate Change	Understanding impacts of climate variability and change: Continue to meet Australia's international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica.	Section 6.4
			Marine Debris	No explicit relevant management actions; marine debris identified as a threat.	Section 6.2.2
			Legislation and management	Action Area A1: Maintain, implement, and improve efficacy of current legislative and management protection for southern right whales.	No actions applicable to Cooper Energy.
		Long term recovery objective: The population has increased in size to a level that the conservation status has improved, and the species no longer qualifies for listing as threatened under any of the EPBC Act listing criteria. Interim Recovery Objective 2:	Habitat Degradation	Action Area A2: Address habitat degradation impacts from coastal and offshore marine infrastructure developments within the species' range.	Action 1: The Activities within this plan are assessed according to the principles of ESD, and management of injury, auditory impairment and/or disturbance is addressed within

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
		Anthropogenic threats are managed consistent with ecologically sustainable development principles to facilitate recovery of southern right whales. Target 2.1: Robust and adaptive management principles are implemented to reduce anthropogenic threats to southern right whales in Australian waters and minimise the risk of mortality, injury, auditory impairment, or disturbance to biologically important behaviours from anthropogenic activities. Target 2.2: Management decisions are supported by high quality information and scientific data, and high priority research areas identified in the Recovery Plan to deliver this information are supported through national and/or state funding programs and conservation planning.		1. Coastal and offshore development actions are assessed according to principles of ecological sustainable development to ensure the risk of injury, auditory impairment and/or disturbance to southern right whales is minimised. 2. Baseline surveys and monitoring undertaken during activity implementation are conducted in accordance with best practice standards and guidelines to ensure standardised datasets are obtained and suitable to inform environmental management decision making that can reduce the risk of threats to southern right whales. 3. Current information on species' occurrence, particularly in HCTS, BIA's, and historic high use areas, are used to inform planning, assessment, and decision-making on marine infrastructure development actions.	Section 6 of the EP, and within the Activity EPOs and EP implementation Strategy. Action 2: Where monitoring is undertaken during activity implementation, standardised data sets are collected (in AAD preferred format), by trained and experienced MMOs, such that data can be reported to AAD for use within research and for wider community interest. These aspects are addressed within the EP Impact and Risk Assessment Section 6.5 and the Implementation Strategy Section 10. Action 3: Contemporary information on species occurrence has been used within this EP to inform planning; and a campaign risk review process has been illustrated within Section 10 (Implementation Strategy), which shows how Cooper Energy will continue to integrate new information into campaign planning.
			Climate Change	Action Area A3: Understand impacts of climate variability and anthropogenic climate change on the species biology and population recovery. 1. Continue to meet Australia's international commitments to address	Action 1. Section 6.4 of this EP describes how emissions from the activity will be managed in accordance with Australian and Victorian Targets.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
				causes of climate change, including greenhouse gas emissions.	
			Entanglement	Action Area A4: Manage and mitigate the threat of entanglements from commercial active or discarded fishing gear throughout the species' range in Australian waters.	No actions applicable to Cooper Energy.
			Anthropogenic Underwater Noise	Action Area A5: Assess, manage, and mitigate impacts from anthropogenic underwater noise. 1. Improve baseline understanding of southern right whale acoustic communication to better inform potential impacts from anthropogenic underwater noise. 2. Actions within and adjacent to southern right whale BIAs and HCTS should demonstrate that it does not prevent any southern right whale from utilising the area or cause auditory impairment. 3. Actions within and adjacent to southern right whale BIAs and HCTS should demonstrate that the risk of behavioural disturbance is minimised. 4. Ensure environmental assessments associated with underwater noise generating activities include consideration of national policy (e.g., EPBC Act Policy Statement 2.1) and guidelines related to managing anthropogenic underwater noise and implement appropriate mitigation	Action 1 – this action is understood to be led by government, supported by research organisations. Cooper Energy utilises contemporary published research within this EP (Sections 4 and 6), and adds to the broader data set of sightings information held by the government with sightings during offshore activities. Action 2 - Integrated into EPO for this activity. These are described in Section 6 and Section 9 of this EP. Action 3 - Integrated into EPO for this activity. These are described in Section 6 and Section 9 of this EP. Action 4 - assessments consider applicable guidelines including relevant elements of EPBC Policy 2.1. Cooper Energy have reviewed a range of mitigation measures as described in Section 6.5, with a range of measures selected to ensure EPOs (which are consistent with the Actions within the Recovery Plan) are met. Action 5. Risks have been quantified using contemporary modelling.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
				measures to reduce risks to southern right whales to the lowest possible level. 5. Quantify risks of anthropogenic underwater noise to southern right whales, including studies aimed to measure physiological effects, behavioural disturbance, and changes to acoustic communication (e.g., masking of vocalisations) to whales. 6. Prioritise government/industry funding opportunities to support research to identify short and long-term responses of southern right whales to underwater noise. 7. Improve understanding and characterisation of marine soundscapes, including the application of new technologies for data processing, within southern right whale BIAs to facilitate quantification of anthropogenic noise in the marine soundscape.	Primary environmental variables (being substrate type) affecting noise propagation are well understood (Connel et. al. 2022). The modelling study integrates scientifically derived thresholds for categories of fauna, which provide for the assessment of potential physiological affects, behavioural disturbance, and masking in/of whales. Action 6. Cooper Energy contributes to research through providing all MMO sightings for use within publicly available databases; these can be accessed by research organisations that may progress research under the SRW RP. Action 7. Understanding and characterisation of marine soundscapes has been improved (in the context of Cooper Energy's activities) through modelling of marine noise from the Activity, and informed by in-field monitoring undertaken nearby in the region that verify geacoustic properties of key environmental variables (being substrate type) (Connel et. al. 2022).
			Vessel interaction	Action Area A6: Manage, minimise, and mitigate the threat of vessel strike. 1. Assess risk of vessel strike to southern right whales in BIAs. 2. Improve understanding of the behavioural response of southern right whales in close vicinity to	Action 1. The risk of vessel strike is assessed in Section 6.2.2 of this EP. Action 2. Improved understanding of behavioural response of southern right whales in close vicinity of vessels is taken from SRW RP, and also informed by Cooper Energy's in-field marine mammal observations. During

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
				vessels (e.g., type, number, distance) in BIAs to inform risk assessments of vessel strike. 3. Ensure environmental impact assessments and associated plans consider and quantify the risk of vessel strike and associated potential cumulative risks in BIAs and HCTS. 4. Undertake a review of the National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna 2017, and update if necessary. 5. Ensure all vessel strike incidents are reported in the National Ship Strike Database managed through the Australian Marine Mammal Centre, Australian Antarctic Division.	2024 BMG decom campaign, there were multiple instances of (humpback) whales approaching vessels, no situation was exactly the same, hence caution was always observed in accordance with the caution and no-approach zones established in the EP. There were no physical interactions between BMG campaign vessels and cetaceans (Appendix 3, Section 3.15.2). During this same campaign, there were observations of close interactions between other marine users and cetaceans which were reported to DCCEEW and DEECA as potential breaches of the EPBC Act and Vic Marine Mammal Regulations, though no vessel strikes were observed (Cooper Energy, 2024, Synergi Case 2571). Action 3. The risk of vessel strike is assessed in Section 6. Cumulative risks are also addressed in Section 6. Action 5. The EP Implementation Strategy Provides for reporting of vessel strike incidents to DCCEEW. The EP refers to DCCEEW - parent agency to AMMC AAD.
			Provision of data to support population status.	Action Area B1: Measure and monitor population demographics and recovery.	5. Where monitoring is undertaken during activity implementation, standardised data sets are collected (in AAD preferred format), by trained

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
				5. Enable sharing and exchange of information required for monitoring the population recovery of southern right whales through support for national databases (e.g., Australian Right Whale Photo Identification Catalogue) and data processing (e.g., automated image matching).	and experienced MMOs, such that data can be reported to AAD for use within research and for wider community interest. In addition, Cooper Energy is currently an Impact Sponsor of the Dolphin Research Institute who run the TwoBays Whale Project – a citizen science initiative aimed at accurately recording and cataloging sightings of whales within Victorian waters. The key species of the project are humpback and southern right whales, and can also include other whales such as killer, minke and blue whales.
				Action Area B2: Characterise population structure.	No actions applicable to Cooper Energy.
				Action Area B3: Determine migratory paths and offshore distribution	No actions applicable to Cooper Energy.
				Action Area B4: Improve capability of First Nation Australians, research, citizen science, and general community groups to assist management of southern right whales. 1. Improve recognition, awareness, and understanding of First Nation Australians cultural connections with whales, including southern right whales. 2. Assess the level of interest of Traditional Owner groups in the	1. First Nations Peoples connection with whales has been characterised within this EP (Section 4 and Section 7), with information sourced from publicly available Country Plans, Consultation and on-country training. 2. Level of interest in marine mammal monitoring during activities has been raised during meetings with Traditional owners (e.g. Gunaikurnai in the Gippsland region) and opportunities will continue to be sought in future.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Pinnipeds				monitoring, conservation, and management of southern right whales by consulting relevant indigenous groups and organisations that occur within the species' range.	4. Cooper Energy is a proud Impact Supporter of the Dolphin Research Institute (DRI). The DRI run the Two Bays Whale Project – a citizen science initiative aimed at accurately recording sightings of whales within Victorian waters. The key species of the project are humpback and southern right whales, and can also include other whales such as killer, minke and blue whales.
				4. Provide advice, education, and support, to research organisations, citizen science groups, and volunteer and community groups regarding management of southern right whales, including providing a greater awareness of the Recovery Plan.	
Australian Sea Lion	Conservation Advice for the <i>Neophoca cinerea</i> (Australian sea lion)	Primary conservation actions: Mitigate the impacts of marine debris on Australian Sea Lions	Noise interference	Monitor and mitigate impacts (including cumulative impacts) of human interactions on Australian Sea Lion colonies. Control access to breeding colonies to minimise the impacts of disturbance on Australian Sea Lions.	Section 6.5.5
			Marine debris	Assess the impacts of marine debris on Australian Sea Lion populations and identify the sources of marine debris which have an impact. Develop and implement measures to mitigate the impacts of marine debris on the species (including reducing the amount of these marine debris entering the oceans), noting linkages with the Threat Abatement Plan for the Impact of Marine Debris on Vertebrate Marine Life.	Section 6.2.2

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
			Disease and parasites	Improve human wastewater management to minimise dispersal of bacteria, parasites and pollutants into the marine environment.	Section 6.6
			Habitat degradation and pollution (oil spills)	Require all vessels to have oil spill mitigation measures in place and implement jurisdictional oil spill response strategies as required.	Section 6.6.5
			Climate Change	Review and adjust management measures to address the threats from disease/parasites and prey depletion, if it is demonstrated that increased temperatures compound these threats.	Section 6.4
			Vessel strike	Collect data on direct killings and confirmed vessel strikes.	Section 6.2.2
Recovery Plan for the Australian Sealion		The overarching objective of this recovery plan is to halt the decline and assist the recovery of the Australian sea lion throughout its range in Australian waters by increasing the total population size while maintaining the number and distribution of breeding colonies with a view to: - Improving the population status leading to the future removal of the Australian sea lion from the threatened species list of the EPBC Act - Ensuring that anthropogenic activities do not hinder recovery in the near future or impact on	Marine debris	Identify the sources of marine debris having an impact on Australian sea lion populations. Assess the impacts of marine debris on Australian sea lion populations. Develop and implement measures to mitigate the impacts of marine debris on Australian sea lion populations, noting the linkages with the Threat Abatement Plan for the Impact of Marine Debris on Vertebrate Marine Life.	Section 6.2.2
			Pollution and oil spills	Implement jurisdictional oil spill response strategies as required.	Section 6.6.5

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Marine habitat		the conservation status of the species in the future.	Habitat degradation	No explicit management actions; habitat degradation recognised as a threat.	Section 6.6.5
			Disease	No explicit management actions; disease and pathogens recognised as a threat.	Section 6.6
			Climate Change	No explicit management actions; climate change recognised as a threat.	Section 6.4
Cauliflower Soft Coral	Conservation Advice for <i>Dendronephthya australis</i> Cauliflower Soft Coral	No explicit relevant objectives	Damage from boat anchoring and moorings	No explicit management actions for Victorian waters; damage from boat anchoring and moorings recognised as a threat.	Section 6.3
Threatened Ecological Communities					
Giant Kelp Marine Forests of Southeast Australia	Approved Conservation Advice for Giant Kelp Marine Forests of Southeast Australia	No explicit relevant objectives	Invasive species	No explicit management actions; invasive species recognised as a threat.	Section 6.6
			Climate Change	No explicit management actions; climate change recognised as a threat.	Section 6.4
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Approved Conservation Advice for the Littoral Rainforest and Coastal Vine Thickets of Eastern Australia ecological community	No explicit relevant objectives	None identified	NA	NA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Species Name	Relevant Plan / Advice	Relevant Objectives	Threats identified relevant to the Activity	Relevant Conservation Actions	Address (where relevant) in the EP
Subtropical and Temperate Coastal Saltmarsh	Conservation Advice for Subtropical and Temperate Coastal Saltmarsh	No explicit relevant objectives	Pollution (oil spills)	Identify Coastal Saltmarsh as important habitat in all oil spill contingency planning at national and State levels and monitor the application of protocols on the management of spills involving saltmarshes.	Section 6.6.5
Other relevant			Invasive Species	No explicit management actions; invasive species recognised as a threat.	Section 6.6
			Climate Change	No explicit management actions; climate change recognised as a threat.	Section 6.4
Vertebrate Species	The Threat Abatement Plan for the impacts of Marine Debris on Vertebrate Wildlife of Australia's Coasts and Ocean	There are four main objectives: - Contribute to the long-term prevention of the incidence of harmful marine debris - Remove existing harmful marine debris from the marine environment - Mitigate the impacts of harmful marine debris on marine species and ecological communities - Monitor the quantities, origins and impacts of marine debris and assess the effectiveness of management arrangements over time for the strategic reduction of debris.	Marine debris	No explicit management actions for non-fisheries related industries (note that management actions in the plan relate largely to management of fishing waste (for example 'ghost' gear), and State and Commonwealth management through regulation.	Section 6.2.2

Table 2-5: Guidance on Key terms within the Blue Whale Conservation Management Plan (September 2022) and how they are applied within this EP

Relevant Plan/Advice	Description
Recovery Plans	The Conservation Management Plan for the Blue Whale (Commonwealth of Australia, 2015), 2015-2025 has been treated as a recovery plan (under the EPBC Act) throughout the EP.
Recovery plan actions	Actions identified in the Conservation Management Plan for the Blue Whale, 2015-2025 have been considered in the assessment of impacts and determination of acceptability of impacts to blue whale, specifically in Section 6.5.5 underwater sound emissions).
Biologically important areas (BIA)	BIAs for blue whale, as provided in the Conservation Management Plan for the Blue Whale, 2015-2025, are described in Appendix 3 and Section 4.4.
Legal requirement - Action A.2.3. from the Blue Whale CMP: <i>“Anthropogenic noise in biologically important areas will be managed such that any blue whale continues to utilise the area without injury, and is not displaced from a foraging area”</i> Further, the DAWE key terms state: <i>‘The recovery plan requirement, Action A.2.3, applies in relation to BIAs. A whale could be displaced from a Foraging Area if impact mitigation is not implemented. This means that underwater anthropogenic noise should not:</i> <i>Attachment A - stop or prevent any blue whale from foraging</i> <i>Attachment B - cause any blue whale to move on when foraging</i> <i>Attachment C - stop or prevent any blue whale from entering a Foraging Area</i> <i>It is considered that a whale is displaced from a Foraging Area if foraging behaviour is disrupted, regardless of whether the whale can continue to forage elsewhere within that Foraging Area. Mitigation measures must be implemented to reduce the risk of displacement occurring during operations where modelling indicates that behavioural disturbance within a Foraging Area may occur’</i>	Action A.2.3 and the DAWE key terms (September 2021) have informed the assessment of acceptability of underwater sound emissions, described in Section 6.5. In the assessment of underwater sound emissions, Cooper Energy has taken a precautionary approach. This is presented through the application of conservative impact thresholds for potential disturbance and injury, the application of ALARP Decision Context B, and the adoption of additional control measures to achieve ALARP and acceptability. Adaptive management approaches have been investigated and the selected measures adopted reflect a precautionary approach; they are designed such that the risk of injury and displacement are reduced so that the foraging behaviour of any blue whale should not be impacted. Cooper Energy has considered the seasonal presence of species in defining the schedule and limitations for this activity. The residual risks to the species are considered low (Section 6.5.4) and the duration of activities (which could cause disturbance) are limited. The level of risk reduction achieved by locking the activity into a specific activity window is therefore considered to be grossly disproportionate to the level of risk reduction achieved. Doing so would also then result in activities being scheduled at times when there are other sensitive receptors, such as the southern right whale. Temporal restrictions, if applied consistently within blue whale foraging areas, would prevent the use of vessels for a range of offshore activities for large periods of the year across the entire south-eastern bioregion, with significant impacts to shipping, fishing, existing and transitional offshore projects.
Definition of ‘a foraging area’	The Operational Area is located within a foraging BIA.

Relevant Plan/Advice	Description
	Blue whale foraging is considered throughout the assessment of potential impacts and risks to blue whales. Timeframes when blue whale foraging is more likely to occur has been defined based on contemporary literature.
Definition of 'displaced from a foraging area'	The definition of 'displacement from a foraging area' has been adopted throughout the assessment of underwater sound emissions (Section 6.5.4).
Definition of 'injury to Blue Whales'	Injury has been defined as permanent threshold shift (PTS) and temporary threshold shift (TTS) throughout the assessment of underwater sound emissions (Section 6.5.4).

2.3 Government Policy and Administrative Guidelines

This EP has been developed in accordance with the NOPSEMA Guidance Note for Environment Plan Content Requirements (N04750-GN1344, September 2020). This guidance has been applied to the portion of the Otway assets within Victorian state waters where appropriate. The guidance note provides guidance to the petroleum industry on NOPSEMA's interpretation of the OPGGS(E)R to assist operators in preparing EPs.

Other relevant government guidelines that have been incorporated into the preparation of this EP include:

- Oil Pollution Risk Management (NOPSEMA Guidance Note, N-04750-GN1488, 7/7/21)
- Operational and scientific monitoring programs (NOPSEMA Information Paper, N-04700-IP1349, October 2020)
- Technical Guideline for the Preparation of Marine Pollution Contingency Plans for Marine and Coastal Facilities (AMSA, 2015a)
- EPBC Act Policy Statement 1.1 – Significant Impact Guidelines – MNES (DoE, 2013)
- National Plan for Maritime Environmental Emergencies (NATPLAN) (AMSA, 2020)
- State Maritime Emergencies (non-search and rescue) Plans and Sub-Plans (EMV, 2021)
- Consultation in the Course of Preparing an Environment Plan (NOPSEMA Guideline, N-04750-GL2086 A900179, 15/12/2022)
- Draft Guidelines for working in the near and offshore environment to protect Underwater Cultural Heritage (DCCEEW, 2023a)
- National Recovery Plan for the southern right whale, 2024 (DCCEEW, 2024)
- National Light Pollution Guidelines for Wildlife (DCCEEW, 2023)
- National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (CoA 2009)

3 Activity Description

This section provides a description of the petroleum activity, including:

- Location.
- General details of the layout of facilities / structures.
- An outline of the field characteristics; and
- A description of the activities which will occur and their timing.

3.1 Activity Location

The Otway offshore facilities are located in Victorian and Commonwealth waters off Victoria's southwest coast in the Bass Strait. The Licence Areas are located southwest of Port Campbell in Commonwealth waters. State waters contain ~5.5km of pipeline and ~5.5km of umbilicals. Commonwealth waters contain ~49.1km of pipeline and ~47.7km of umbilicals.

The facilities are located in water depths ranging from <10 m to 70 m deep. The coordinates of the subsea wells and pipelines are provided in Table 3-1 and Table 3-2 (respectively). The subsea umbilicals are offset from the pipelines within approximately 100 m.

Table 3-1: Coordinates of the Subsea Well Locations

Well Name	State / Cwth waters	Latitude	Longitude
Stage I (VIC/L24)			
Casino-4	Cwth	38° 47' 13.03"	142° 41' 54.48"
Casino-5	Cwth	38° 47' 43.68"	142° 44' 44.59"
Stage II (VIC/L30)			
Henry-2	Cwth	38° 42' 14.55"	142° 37' 13.05"
Netherby-1	Cwth	38° 40' 48.58"	142° 38' 25.74"

Table 3-2: Coordinates of the Offshore Otway Pipelines

Location Point	State or Cwth waters	Latitude	Longitude
Stage I (VIC/PL37(V))			
HDD Entry	n/a (Onshore)	38° 36' 55.88"	142° 57' 49.43"
HDD Exit	State	38° 37' 46.54"	142° 57' 46.02"
Pipeline End	State	38° 40' 29.50"	142° 57' 25.30"
Stage I (VIC/PL37)			
Pipeline Start	Cwth	38° 40' 29.50"	142° 57' 25.30"
Pipeline End	Cwth	38° 47' 13.81"	142° 41' 54.08"
Stage II (VIC/PL42)			
Pipeline Start	Cwth	38° 47' 13.81"	142° 41' 54.08"
Pecten East Lay down flange	Cwth	38° 38' 10.83"	142° 41' 8.71"

Geocentric Datum of Australia 1994 (GDA 94), Geodetic Reference System 1980 (GRS80), Universal Transverse Mercator (UTM) Zone 55

3.1.1 Operational Area

The operational area for the activity is the area where activities will take place and will be managed under this EP. The operational area around the subsea infrastructure is shown in Figure 3-1 and includes both state waters and commonwealth water components. The operational areas include:

- 500 m around existing wells

- 500 m either side of linear infrastructure and
- Seabed surveys (see Section 3.6.2.1) may be undertaken anywhere within VIC/L24 and VIC/L30 for the purposes of collecting information on, and managing risks related to the benthic environment, underwater heritage, debris and hazards on the seafloor.

The Annie-2 well is shown in Figure 3-1, as it represents the modelling location for the accidental hydrocarbon release scenario in Section 6.7.

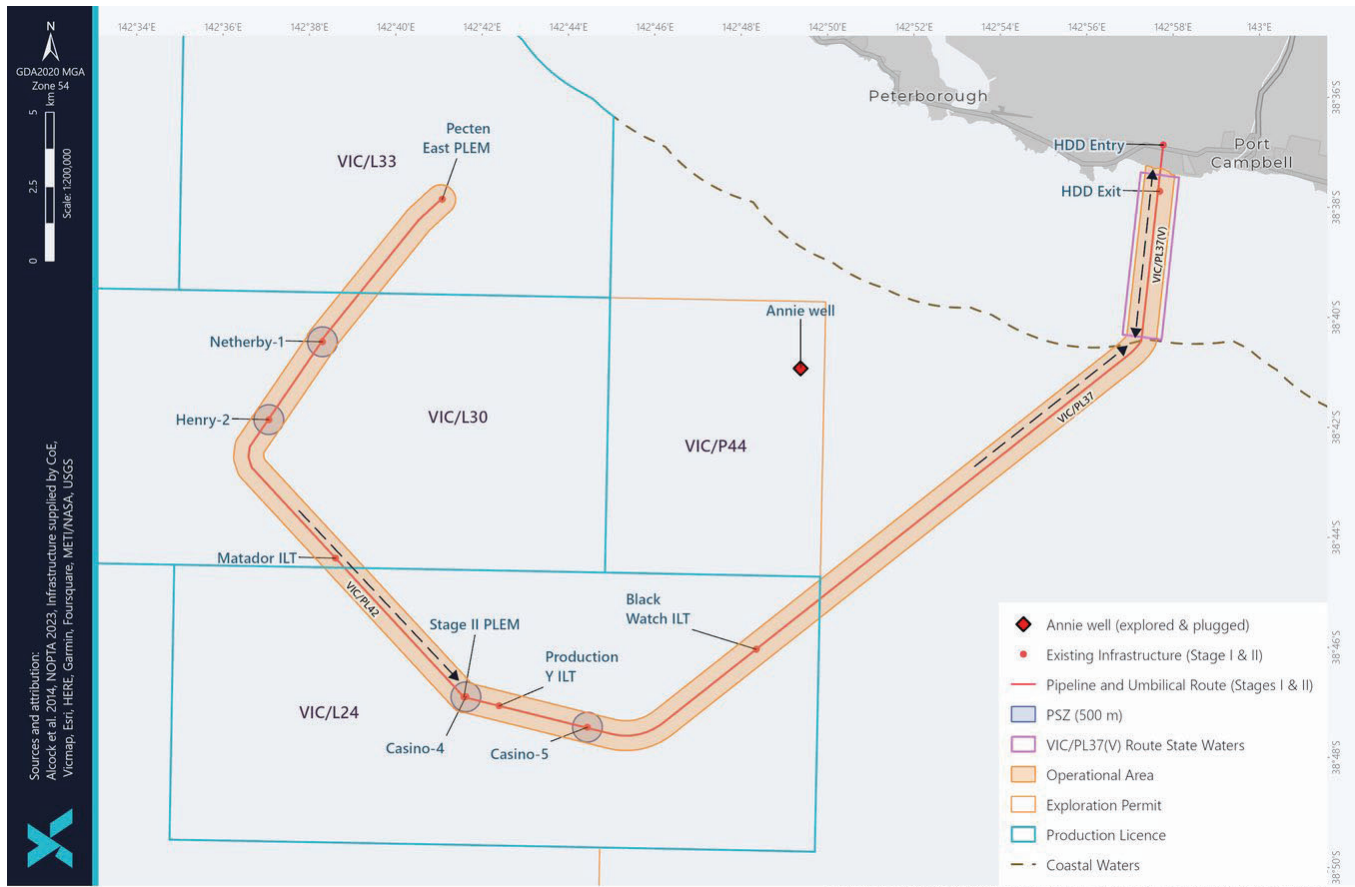


Figure 3-1: Operational Area

3.2 Activity timing

The EP covers a period of 5-years from acceptance. Within this period a number of activities are expected to take place. These activities, including contingency activities such as maintenance and repair works, and their approximate durations are described in the respective sections below.

Table 3-3 shows the activity schedule; some of these timings are as planned, and some are nominal timings. Production operations through the subsea infrastructure is continuous. Durations of inspection, maintenance and repair activities depend on the scope, but are typically between 2-4 weeks.

Table 3-3: Indicative activity timings

Year	2022				2023				2024				2025				2026				2027				2028			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EP (State and Cwth waters)								a																				s
Operations (State and Cwth waters)																												

Year	2022				2023				2024				2025				2026				2027				2028			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
IMR (State and Cwth waters)									n								n								n			

a = acceptance (assumed), s = submission (dependent on acceptance timing), n = nominal timing.

3.3 Asset Description

The Otway offshore facilities (Figure 3-1) consist of:

- Stage I (installed and operational):
 - Casino-4 and Casino-5 (located in Production Licence VIC/L24) complete with wellheads and trees at the seabed in 70 m water depth (Cwth waters).
 - A 32.6 km long, 300 mm nominal diameter pipeline (VIC/PL37 and VIC/PL37(V), connecting the Casino wells to shoreline infrastructure and processing facilities at the Athena Gas Plant. The Stage I offshore pipeline is not trenched but laid directly onto the seabed. It is stabilised with 271 concrete articulated mattresses to prevent movements induced by ocean currents at the seabed (State and Cwth waters).
 - The 120 mm diameter EHU cable, 31.2 km long, which connects Casino-4 and Casino-5 to the MLV onshore; the MLV is connected to the Athena Gas Plant (State and Cwth waters). The umbilical contains electrical lines and multiple cores which convey chemicals and hydraulic fluids. The umbilical is stabilised by 84 mattresses.

Five and a half km (5.5 km, 3 NM) of the Stage I pipeline (VIC/PL37(V)) and associated EHU cable are in Victorian state waters. The VIC/PL37(V) pipeline extends from the Horizontal Directional Drill (HDD) shoreline crossing, within the HDD section of pipeline, to 5.5 km from the shoreline. The HDD exit is located approximately 800m from the shore in 18 m water depth. The Stage I pipeline then runs south through State waters into Cwth waters where it passes south of the Casino-5 and Casino-4 wells by an offset of approximately 30 m from the wells and terminates at the Casino pipeline end manifold (PLEM).

- Stage II (installed and operational):
 - Henry-2 and Netherby-1 (located in Production Licence VIC/L30) complete with wellheads and trees at the seabed in 67 m and 63 m water depth respectively, with rigid spools to connect the subsea trees (SST) to the Casino pipeline (Cwth waters).
 - A 22 km long, 300 mm nominal diameter (Licenced Pipeline VIC/PL42) Casino to Pecten East pipeline (Casino Stage II pipeline), which connects the Henry-2 and Netherby-1 wells to the Casino Stage I Pipeline (Cwth waters). The Stage II pipeline was also not trenched and was laid directly onto the seabed. It is stabilised with 390 concrete mattresses to prevent movements induced by ocean currents at the seabed.
 - The 135 mm diameter EHU cable (extension of the Stage I umbilical), 22 km long, connecting the Henry-2 and Netherby-1 wells to the electrically and hydraulically to the MLV and AGP (State and Cwth waters). The umbilical is stabilised by 240 concrete mattresses.
 - Subsequent installation of a 4.4 km EU from Casino 5 to Casino 4, 6.6 km EU from Casino 4 to Matador, 6.2 km EU from Matador to Henry, 3.5km EU from Henry to Netherby (Cwth waters). These sections of EU replaced and repaired the electrical component of the in-field EHU which had been experiencing communication issues.

The Stage II pipeline, installed in 2009, ties into the Casino PLEM via a tie-in spool and a separate downstream PLEM. The pipeline runs in a north-westerly direction towards Henry-2 (Cwth waters). Prior to reaching Henry-2, the pipeline turns north-east where it runs past Henry-2 and Netherby-1 to the Netherby PLEM (Cwth waters). The pipeline then further extends from the Netherby PLEM to the Pecten East PLEM (Cwth waters). This pipeline section is isolated by double block and bleed valving and was filled within

inhibited water² (440 m³) in 2009. The end point of this pipeline is the Pecten East prospect. Development of Pecten East is a potential future activity; it is not currently within the scope of this EP.

3.3.1 Equipment Status

A range of infrastructure currently exists within the operational area. An infrastructure register is maintained within the Asset Integrity Management Plan (IMP) document (CHN-IR-IMP-0001). Table 3-4 summarises the main infrastructure components for Stages I and II and their status. Minor and auxiliary pieces of equipment (e.g., flowline jumpers, flying leads) are not described here but are tracked via the IMP. Equipment installed during Stages I and II are anticipated to be operational until at least 2029 with further life-extensions planned which will integrate additional fields.

Table 3-4 Equipment Status

Infrastructure	Associated Licence	State / Cwth Waters	Status
Wells and Subsea Trees			
Casino-1 Exploration Well	VIC/P44	Cwth	Well Plugged and Abandoned in 2002. Wellhead and surface equipment recovered at part of the P&A campaign (Santos 2002b)
Casino-2 Exploration Well	VIC/P44	Cwth	Well Plugged and Abandoned in 2002. Wellhead and surface equipment recovered at part of the P&A campaign (Santos 2002b)
Casino-3 Exploration Well	VIC/P44	Cwth	Well Plugged and Abandoned in 2003. Wellhead and surface equipment recovered at part of the P&A campaign (Santos 2003)
Casino-4	VIC/L24	Cwth	Operational
Casino-5	VIC/L24	Cwth	Operational
Henry-2	VIC/L30	Cwth	Operational
Netherby-1	VIC/L30	Cwth	Operational
Manifolds and Tie-ins			
Pecten East Tee & PLEM	VIC/PL42	Cwth	Installed for future tie-ins
Netherby Tee & PLEM	VIC/PL42	Cwth	Operational
Henry 2 ILT	VIC/PL42	Cwth	Operational
Matador ILT	VIC/PL42	Cwth	Installed for future tie-ins
Casino 2009 PLEM	VIC/PL37	Cwth	Operational
Casino 4 Tee & PLEM	VIC/PL37	Cwth	Operational
Production Y Tie-in ILT	VIC/PL37	Cwth	Installed for future tie-ins
Casino 5 ILT	VIC/PL37	Cwth	Operational
Blackwatch ILT	VIC/PL37	Cwth	Installed for future tie-ins
Flowlines			

² Water inhibited with Oxygen Scavenger Champion OS2 (@ 150 ppm), Biocide 1710 Champion (@700 ppm), Florescent Dye (@ 100 ppm concentration).

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Infrastructure	Associated Licence	State / Cwth Waters	Status
Pecten East to Netherby Rigid Pipeline	VIC/PL42	Cwth	Installed for future tie-ins
Netherby to Henry 2 Rigid Pipeline	VIC/PL42	Cwth	Operational
Henry 2 to Matador Rigid Pipeline	VIC/PL42	Cwth	Operational
Matador to Casino Tie-in Rigid Pipeline	VIC/PL42	Cwth	Operational
Casino 5 to KP13.7 Rigid Pipeline	VIC/PL37	Cwth	Operational
KP13.7 to HDD Exit Rigid Pipeline	VIC/PL37 / VIC/PL37(V)	State and Cwth	Operational
HDD Exit to HDD Entrance Rigid Pipeline	Crossover between VIC/PL37(v) / VIC/PL251	State	Operational (VIC/PL251 is not in scope)
HDD Entrance to Mainline Valve (LV) Rigid Pipeline	VIC/PL251	N/a onshore	Operational (Not in scope)
Umbilicals and Termination / Distribution Units			
Pecten East Umbilical Terminal Assembly (UTA)	-	Cwth	Installed for future use
Pecten East to Netherby Umbilical	-	Cwth	Installed for future use
Netherby to Henry 2 Umbilical	-	Cwth	Operational
Henry – Netherby (HN) EU	-	Cwth	Operational
Matador – Henry (Matador – Henry (MH)) EU	-	Cwth	Operational
Henry 2 to Matador UTA-2 Umbilical	-	Cwth	Operational
Matador UTA-2 to UTA-1 Umbilical	-	Cwth	Operational
Casino – Matador (CM) EU	-	Cwth	Operational
Casino 4 to Casino 5 Infield Umbilical	-	Cwth	Operational
Casino 5 – Casino 4 (5/4) EU	-	Cwth	Operational
Casino 5 to MLV Main Umbilical	-	Cwth	Operational
Netherby UTA	-	Cwth	Operational
Henry 2 EDU	-	Cwth	Operational

Infrastructure	Associated Licence	State / Cwth Waters	Status
Henry 2 UTA (x2)	-	Cwth	Operational
Matador UTA-2 (at Matador)	-	Cwth	Operational
Matador UTA-1 (at Casino 4)	-	Cwth	Operational
Casino 4 EDU	-	Cwth	Operational
Casino 4 MUTA	-	Cwth	Operational
Casino 4 UTA (x2)	-	Cwth	Operational
Casino 5 EDU	-	Cwth	Operational
Casino 5 UTA	-	Cwth	Operational

3.4 Asset Decommissioning

In order to meet southeast Australia's continued demand for natural gas, Cooper Energy's strategy is to incrementally develop the Otway basin fields, extending the life and utilising existing infrastructure where practical. Surrounding fields are planned to be linked back to and produced through the existing infrastructure, which has the dual benefit of reducing the economic threshold for bringing gas to market and reducing the environmental footprint. At this time, the Otway offshore facilities are operational and are maintained in accordance with the facility IMP (CHN-PI-IMP-0001).

Cooper Energy acknowledges the requirements of Section 572 of the OPGGSA and NOPSEMA Policy Section 572 Maintenance and Removal of Property (N-00500-PL1903, A720369, November 2020) for removal of all property within commonwealth waters, when it is no longer in use and that any deviations from this position will need to be evaluated and accepted by NOPSEMA. The level of detail of decommissioning plans increases as time to production cessation reduces. These requirements are integrated into the Cooper Energy Decommissioning Protocol (see Section 10.3.1).

Table 3-5 outlines the expected abandonment and decommissioning timelines for Cooper Energy's wells and subsea infrastructure in the Otway Basin. Decommissioning timings are indicative and are dependent on several factors, including:

- Production duration from producing assets.
- Rig / vessel availability.
- Potential to extend life for adjacent projects; and
- Ability to combine decommissioning operations with other projects and / or operators to carry out works efficiently, and in a cost-effective manner.

Table 3-5 Indicative Decommissioning Plan

Asset	Scope	Indicative Timing	Notes	Deviation from Section 572
Offshore Wells	Plug and Abandon Wells	Within 3-years of cessation of production from all assets.	Well abandonment to be carried out within 3 years of cessation of production. If production ceases from wells incrementally, wells which are no longer producing will be monitored in accordance with the WOMP, until the full field well abandonment campaign.	No planned deviations. Where well integrity can be assured, the wells will be abandoned within 3-years of full field cessation. If the well(s) lose monitoring capabilities during their shut-in period awaiting field abandonment (before cessation of

Asset	Scope	Indicative Timing	Notes	Deviation from Section 572
				production), a risk assessment will be performed to determine if a separate well abandonment campaign is required under the NORSOK D-10 classification of “temporary abandonment – without monitoring” to comply to industry standards.
Offshore facilities	Prepare Offshore Facilities for decommissioning (flushing / cleaning)	Following cessation of production	Undertaken as part of preparations for full field decommissioning.	N/A
	Decommissioning of offshore facilities, including Cwth and State water elements	Within 5-years of cessation of production.	The final end state is expected to involve removal of all property brought onto the area of a Title, except components of the subsea wells below seabed; any alternative arrangements would be sought through the submission of a separate EP. The end state for the HDD shore crossing will be agreed with State regulators prior to decommissioning.	No planned deviations. Where IMR involves the replacement of equipment; redundant equipment shall be progressively removed subject to an assessment considering aspects including stability, integrity, and interaction with live equipment, which may preclude interim removal.
Title Area	Making good seabed	Prior to Title relinquishment	Making good the seabed may involve offshore survey for debris and seabed condition.	

3.5 Production and Field Characteristics

3.5.1 Production Profile

The Otway offshore reservoirs produce gas with minor quantities of condensate. Production from the Casino field commenced in 2005 and production from Henry-2 and Netherby-1 commenced in 2010.

Figure 3-2 Figure 3-2: shows a raw gas production profile forecast for the Offshore Otway Asset. The production profiles extend to the point of expected commercial truncation and decision to cease production. The forecasts comprise a number of components:

- Remaining 2P production including a minor pressure reduction project at Athena to 1000 kPag.
 - Remaining 2P production including a minor pressure reduction project at Athena to 800 kPag.
- Emissions described and assessed within this EP are based on this forecast.

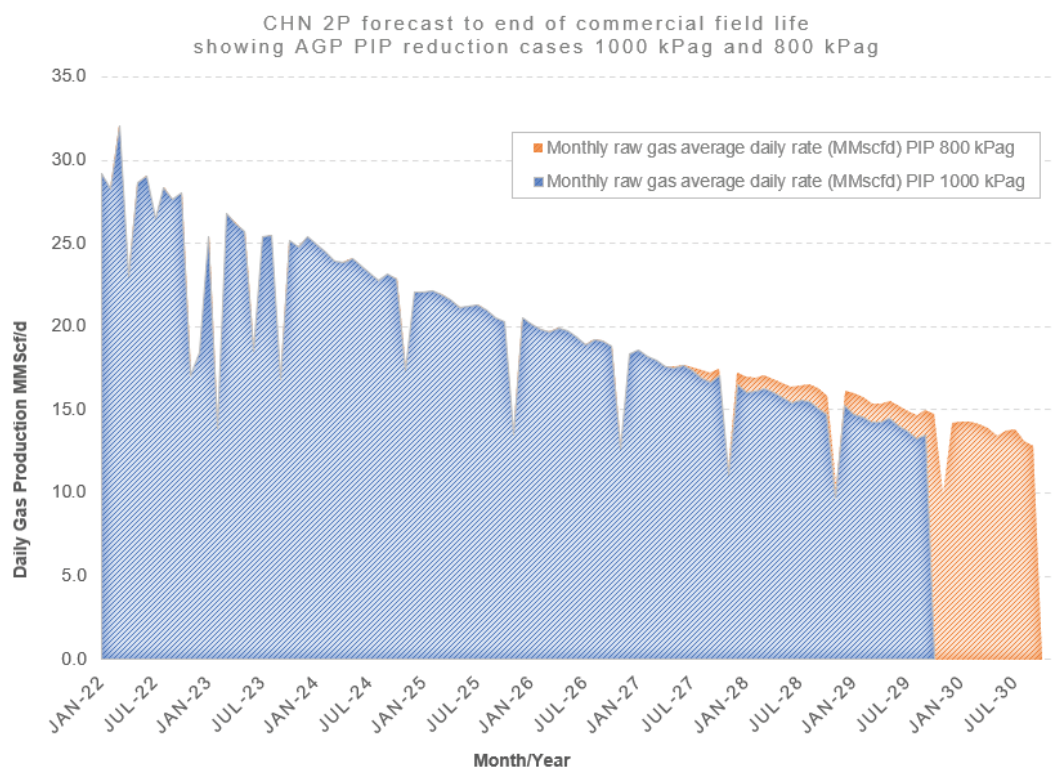


Figure 3-2: CHN offshore reservoirs: recent production and current production forecasts

Table 3-6 shows the estimated resources within the fields described. Production varies day-to-day to meet monthly/daily nominations by customers. Gas production from the fields has historically exceeded 100 TJ/d, though is now at around 25 TJ / day and 3 m³ / day condensate.

Section 6.4 identifies total Scope 1, 2 and 3 emissions associated with the production activities.

Table 3-6: Otway offshore reservoirs - estimated resource

	Field	Estimated resource (EUR, raw Bcf)	Production rates	Production cessation cases (approximate timing)
Stage I	Casino	299	Historical >100 TJ/d	Q3 2029 – Q4 2030 with inlet modification at AGP (base case, excluding future offshore development plans). Q3 2028 if no AGP inlet modification at AGP.
Stage II	Henry	51	2022: 25 TJ/d	
	Netherby	97	Condensate: 2.5 m ³ /d	

3.5.2 Reservoir and Hydrocarbon properties

All wells in the development area access hydrocarbons from the Waarre A or Waarre C Formation reservoirs. Reservoir conditions and gas and condensate compositions across the wells do not vary materially.

During the 2021 reporting period, the Athena Gas Plant National Pollution Index (NPI) report did not identify mercury to be present in quantities that required inclusion within the annual NPI report. The 2022 Bureau Veritas gas and condensate Certificate of Analysis (Bureau Veritas, 2022) reported very low levels total mercury levels of less than 0.1 µg/m³ in the raw gas at Athena Gas Plant, which comprised Casino, Henry and Netherby gases. The Victorian Gas Safety (Gas Quality) Regulations (2017) provide for the quality of gas delivered into the domestic market. AEMO Gas Quality Guidelines (2017) set out thresholds above which operators must notify AEMO, mitigate, or curtail gas supplies. CHN raw gas is below these thresholds. There are no discharge sources within the offshore environment from the CHN subsea facilities which may be expected to contain mercury during normal operations (e.g., produced water). In the event of an unplanned release (loss of containment) from the pipeline system, mercury could be within released fluids at very low levels.

The hydrocarbon properties of the Annie field have been included in Table 3-8 and Table 3-9 as it has been used as a modelling analogue for the accidental hydrocarbon release scenario in Section 6.7. Modelling was undertaken to support future field development planning; and has been used to identify the environment that may be affected for the purposes of this EP. As pressures and condensate:gas ratios within Stage II wells are now much lower than Annie, this well provides a very conservative proxy for response planning purposes.

Table 3-7 provides a breakdown of the known and expected reservoir and hydrocarbon properties from the fields. The condensate of the Otway offshore reservoirs is classified as a Group 1 (non-persistent) oil. The Netherby condensate is considered representative of all reservoirs (refer to

Table 3-9), which are ultimately comingled within the Casino pipeline during transport to shore. Netherby condensate is highly evaporative under ambient atmospheric conditions, with zero estimated residual (persistent) components (Table 3-9). It has a pour point of -54°C (when fresh).

During the 2021 reporting period, the Athena Gas Plant National Pollution Index (NPI) report did not identify mercury to be present in quantities that required inclusion within the annual NPI report. The 2022 Bureau Veritas gas and condensate Certificate of Analysis (Bureau Veritas, 2022) reported very low levels total mercury levels of less than 0.1 µg/m³ in the raw gas at Athena Gas Plant, which comprised Casino, Henry and Netherby gases. The Victorian Gas Safety (Gas Quality) Regulations (2017) provide for the quality of gas delivered into the domestic market. AEMO Gas Quality Guidelines (2017) set out thresholds above which operators must notify AEMO, mitigate, or curtail gas supplies. CHN raw gas is below these thresholds. There are no discharge sources within the offshore environment from the CHN subsea facilities which may be expected to contain mercury during normal operations (e.g., produced water). In the event of an unplanned release (loss of containment) from the pipeline system, mercury could be within released fluids at very low levels.

The hydrocarbon properties of the Annie field have been included in Table 3-8 and Table 3-9 as it has been used as a modelling analogue for the accidental hydrocarbon release scenario in Section 6.7. Modelling was undertaken to support future field development planning; and has been used to identify the environment that may be affected for the purposes of this EP. As pressures and condensate:gas ratios within Stage II wells are now much lower than Annie, this well provides a very conservative proxy for response planning purposes.

Table 3-7: Otway Field Reservoir Conditions

Parameter	Casino Waarre C	Casino Waarre A	Henry	Netherby	Annie
Pressure at Reservoir Depth (psia)	Undepleted: 2850 Current: 515	Undepleted: 2830 Current: 880	Undepleted: 2670 Current: 880	Undepleted: 2550 Current: 505	Undepleted: 3280
Temperature (°C)	80	87	80	76	100
Gas Specific Gravity	0.595-0.65	0.595-0.65	0.59	0.584	0.66
Condensate to Gas Ratio	Undepleted: 1.1 bbls/MMscf Current: 0.3 bbls/MMscf				1bbl/MMscf

Table 3-8: Otway Field Gas Compositions³

Component	Casino		Henry	Netherby
	Casino 4 (Waarre A)	Casino 5 (Waarre C)	Henry 2 (Waarre A)	Netherby 1 (Waarre A)
	mole%			
Hydrogen sulphide	0.00	0.00	0.00	0.00
Nitrogen	0.66	0.74	0.07	0.06
Carbon Dioxide	3.15	2.18	1.59	1.16
Methane	93.67	94.50	94.82	95.66
Ethane	1.50	1.80	2.26	1.99
Propane	0.43	0.44	0.60	0.55
i-Butane	0.13	0.07	0.12	0.10
n-Butane	0.13	0.07	0.18	0.12
i-Pentane	0.04	0.02	0.04	0.04

³ Gas is treated at AGP to meet sales specification

Component	Casino		Henry	Netherby
	Casino 4 (Waarre A)	Casino 5 (Waarre C)	Henry 2 (Waarre A)	Netherby 1 (Waarre A)
	mole%			
n-Pentane	0.03	0.02	0.04	0.04
Hexane	0.05	0.02	0.07	0.05
Heptane	0.09	0.06	0.10	0.08
Octane	0.03	0.03	0.04	0.04
Nonane	0.03	0.01	0.02	0.03
Decane	0.02	0.01	0.02	0.02
Undecane	0.03	0.01	0.01	0.02
Dodecane+	0.01	0.02	0.02	0.04
TOTAL	100	100	100	100
Mercury	0.1 µg/m ³			
NORMS	240 Bq/m ³ (Radon-222)			

Table 3-9: Physical Characteristics of the Netherby Condensate

Characteristic	Volatiles (%)	Semi-volatiles (%)	Low Volatiles (%)	Residuals (%)	Density (kg/m ³)	Dynamic Viscosity (%)
Boiling point (°C)	<180	180-265	265-380	>380	774 @ 16 °C	0.14 @ 25 °C
Aromatics	MAHs	2-ring PAHs	3-ring PAHs	≥4 rings		
Aliphatic	C4 – C10	C10 – C15	C15 – C20	>C20		
Netherby condensate	84	14	2	0	774 @ 16 °C	0.14 @ 25 °C
	Non-persistent			Persistent		

3.6 Activities that have the potential to impact the environment

The scope of this EP covers the operations, maintenance and support activities associated with Stages I and II. Activity types in scope of the ongoing operations include:

- Subsea Operations:
 - Operation of subsea wells and structures (Cwth waters)
 - Operation of subsea pipelines and umbilicals (State and Cwth waters)
 - Inspection, maintenance and repair (IMR) (State and Cwth waters)
- Support operations:
 - Vessel operations (State and Cwth waters)
 - ROV operations (State and Cwth waters)
 - Helicopter operations (State and Cwth waters)
 - Diver operations (State and Cwth waters)
- Site Surveying
 - Geophysical (State and Cwth waters)

All activities are all described in detail in the sections to follow, with inputs provided that relate to the environmental aspects that the activity triggers.

3.6.1 Subsea Operations

The operation, monitoring and control of the Otway wells are conducted remotely from the Athena Gas Plant through control via the EHU. All well functions are monitored and controlled from the gas plant control room through a Master Control System (MCS) via a Subsea Control Module (SCM) integrated into the subsea tree at each well. All subsea control systems are electro-hydraulic.

Isolation of the pipeline occurs at the offshore wells, the onshore MLV site and at the inlet to the Athena Gas Plant upstream of the Athena Gas Plant Slug Catcher. Isolation valves, sub-surface safety and wellhead isolation valves are tested in accordance with the WOMP and IMP.

The hydraulic component of the EHU is open loop, with discharges of water-based control fluids at the wells during valve functioning (Cwth waters). These hydraulic cores currently carry two control fluids which are common within offshore production facilities in Bass Strait:

- Castrol Transaqua HT2. This product has been in use for > 5 years and comprises the majority of the control fluid within the system.
- Macdermid HW525. This is a legacy product that was used until it was substituted for HT2. There remains some residual HW525 within the system (HP lines) which is gradually displaced by the HT2.

Hydrate, scale and corrosion are managed with the assistance of chemical injection at the wells via chemical cores within the EHU. These cores are closed loop with no planned discharges during normal operations. Chemicals within the EHU include hydrate inhibitors (Methanol, MEG) treated with an acidity regulator (e.g.,

sodium hydroxide, potassium carbonate) and scale inhibitor (e.g., Gypton SA-3220, Dissolvine Stimwell HTF).

Fluids within the EHUs may be discharged during maintenance and repair activities, for example during umbilical jumper replacement, or intervention and re-termination of umbilicals in the event of a fault. Details regarding the functioning of the EHU and planned discharges are described below.

Requirements for Impact Assessment	Technical Input	
What volume of hydraulic fluid will be discharged to the marine environment in normal operations? Cwth Waters	Valve Action	Approximate control fluid release volume
	Emergency shutdown (ESD)	10 L
	Controlled well shutdown	10 L
	Well Integrity Test (over 4-6 hours)	30 L
	Total annual	2 – 6 m ³

3.6.2 Inspection, Maintenance and Repair Activities

3.6.2.1 Inspections

Inspection of wells, pipelines, umbilicals and subsea structures will be undertaken by an ROV from a vessel (State and Cwth waters). In some cases, this may involve divers and a dive support vessel.

Inspections typically monitor:

- Anode wastage.
- Coating damage.
- Cathodic protection (CP) measurements.
- Internal condition, including via inline inspection (ILI) / pipeline inspection gauge (PIG) techniques.
- External corrosion.
- Lack of integrity (missing components, broken loose or damaged appurtenances).
- Pipeline spans, support and stabilisation
- Structure's integrity
- Marine growth.
- Damage (impact, environment or third party).
- Scour.
- Variation of inspected components or operating conditions
- Leaks (gas or liquid); and
- Seabed conditions.

Requirements for the Impact Assessment	Technical Input
Describe the potential discharges resulting from inspection activities	ILI scenario #1: Discharge of treated water associated with installation/removal of pig launcher offshore (Commonwealth waters). Nominal discharge of chemically treated water. Treatment chemicals may include: Corrosion inhibitor, Oxygen scavenger, Biocide and Dye. ILI scenario #2: Displacement of 440 m³ previously treated water from the Pecten-east to Netherby section of pipeline when PIG is propelled from PE. Discharge at Netherby (Cwth waters) at a rate of 0.5 to 1 m/s.

	External integrity checks: targeted use of marine scale dissolver to remove calcareous deposits and from subsea infrastructure, allowing access for CP and wall thickness checks. Nominal discharge volume of 2 m³ in 100 L batches (State and Cwth waters). Refer to Section 3.6.2.2 for details of potential seabed disturbances associated with ILI.
What is the planned inspection schedule/frequency?	Inspections are undertaken in accordance with the schedule outlined in the asset IMP and vary based on the outcomes of the previous inspection and ongoing integrity monitoring. Inspections can also occur in response to incidents. Indicative timings are described in Section 3.2.
What is the planned inspection duration	Inspections typically take 4 – 6 hrs per structure and 1 – 2 days for pipelines, totalling circa 2 – 4 weeks at sea for an entire inspection program including mobilisation and demobilisation, depending on weather.
Typical noise emission from survey techniques	Geophysical survey techniques may be required during IMR activities, and to inform future IMR activities (State and / or Cwth waters). The geophysical survey techniques are described in Table 3-10. Geophysical survey techniques may involve the use of an Autonomous Underwater Vehicle (AUV) or ROV. Buoyancy is managed through the integration of foam buoyancy modules where required. Controls systems for the ROV and associated survey equipment may include hydraulic lines run from the surface and are integral to the equipment, with an associated small inventory of hydraulic fluid.

Table 3-10: Geophysical Survey Equipment

Survey Equipment	Description
Multi-beam echo sounder (MBES)	The purpose of the MBES investigation is to undertake detailed measurements of bathymetry in the operational area. A MBES mounted on the vessel hull is likely to be used. A MBES acquires a wide swath (strip) of bathymetry data perpendicular to the vessel track and provides total seabed coverage with no gaps between vessel tracks. MBES systems are available for all water depths between 1 m and 12,000 m. A MBES transmits a broad acoustic pulse from a transducer over a swath across track. The MBES then forms a series of received beams that are each much narrower and form a 'fan' (with a half-angle of 30-60°) across the seabed, perpendicular to the vessel track. The transducer(s) then 'listen' for the reflected energy from the seabed. The fans of seabed coverage produce a series of strips along each track, which are lined up side-by-side to generate two dimensional georeferenced bathymetric maps of the seabed.
Side Scan Sonar (SSS)	An SSS detects hazards such as existing pipelines, lost shipping containers, boulders, debris, unmarked wrecks, reefs and craters. The SSS method of surveying generates oblique acoustic images of the seabed. Side-scan transducers may be mounted on AUV systems, vessel hulls or more commonly by towing a sonar 'towfish.' The towfish is provided with power and digital telemetry services and towed from the vessel using a reinforced or armoured tow cable. The towfish is equipped with a linear array of transducers that emit, and later receive, an acoustic energy pulse in a specific frequency range. Typically, a dual-channel, dual-frequency SSS is used. SSS is similar to MBES but operates at a wider fan angle. The SSS towfish is constructed of stainless steel and is a cylindrical torpedo-like device and is typically towed 10-15 m above the seabed depending on water depth and the frequency range. The SSS is towed and operated at the same time as the MBES.

Survey Equipment	Description
Sub-bottom Profiler (SBP)	An SBP is used to investigate the layering and thickness of the uppermost seabed sediments. The SBP must be able to provide imagery that penetrates to a minimum depth of at least 30 m below the seabed. Compressed High-Intensity Radar Pulse (CHIRP) Very high frequency systems including pingers, parametric echo sounding and CHIRP – produce a swept-frequency signal. CHIRP systems usually employ various types of transducers as the source. The transducer that emits the acoustic energy also receives the reflected signal. CHIRP signals typically penetrate only about 5-10 m into the seabed and provide the best resolution, but lowest penetration. A CHIRP is normally hull mounted when used for shallow water operations but may also be towed in a similar fashion to the SSS. High frequency Boomers High-frequency boomers consist of a circular piston moved by electro-magnetic force (comprising an insulated electrical coil adjacent to a metal plate). The high voltage energy that excites the boomer plate is stored in a capacitor bank. A shipboard power supply generates an electrical pulse that is discharged to the electrical coil causing a magnetic field to repel a metal plate. This energetic motion generates a broadband, high amplitude impulsive acoustic signal in the water column that is directed vertically downward. A boomer system offers a penetration depth of up to 100 m below the seabed. Boomers are mostly surface towed but may also be towed below the surface to avoid sea surface wave noise and movement. The receiver for the boomer system is usually a hydrophone or hydrophone array consisting of a string of individual hydrophone elements located within a neutrally buoyant synthetic hydrocarbon filled tubing. They typically contain eight to 12 hydrophone elements evenly spaced in a tube that is 2.5 to 4.5 m in length and 25 mm in diameter. The SBP system is towed and operated at the same time as the MBES and SSS. The survey is likely to be undertaken in two passes in conjunction with the MBES and SSS.
Magnetometer	This equipment detects large and small metallic objects on or below the seabed (e.g., buried pipelines, petroleum wellheads, shipwreck debris and dropped objects such as un-exploded ordinance, cables, anchors, chains) that may not be identified by acoustic means. A magnetometer sensor is housed in a towfish and is towed as close to the seabed as possible and sufficiently far away from the vessel to isolate the sensor from the magnetic field of the vessel. A magnetometer measures the ambient magnetic field using nuclear magnetic resonance technology, applied specifically to hydrogen nuclei. The magnetometer survey will be conducted simultaneously with the MBES, SSS and SBP, as it can be powered using the same tow cable and power supply.
Ultra-Short Baseline (USBL) Positioning System	A complete USBL system consists of a transceiver, which is mounted on a pole under a vessel, and a transponder or responder on a towfish. A computer, or "topside unit", is used to calculate a position from the ranges and bearings measured by the transceiver. An acoustic pulse is transmitted by the transceiver and detected by the subsea transponder, which replies with its own acoustic pulse. This return pulse is detected by the shipboard transceiver. The time from the transmission of the initial acoustic pulse until the reply is detected is

Survey Equipment	Description
	measured by the USBL system and is converted into a range. This equipment is designed for positioning towfish in water depths up to 3,000 m
Sound Velocity Profiler (SVP) and Conductivity, Temperature and Depth (CTD)	This equipment is used to determine the speed of sound in water; in addition to CTD data. The probe is fitted with a digital time of flight sound velocity sensor, conductivity sensor, a temperature compensated piezo-resistive pressure transducer, and a temperature sensor.
Requirements for Impact Assessment	Technical Input
Typical noise emission from survey techniques	MBES R2Sonic 2024 Reson SeaBat 8101 200–400 kHz Sidescan sonar EdgeTech 4200 70–400 kHz Sub-bottom profiler • CHIRP, Applied Acoustics AA301 2–16 kHz • Boomer, Applied Acoustics AP3000 100–1,000 Hz • USBL Sonardyne Ranger 18–36 kHz
What is the planned survey schedule/frequency?	Refer to Table 3-3.
What is the planned survey duration?	Geophysical survey equipment used as part of IMR activities; indicative timing and durations for IMR are described in Section 3.2. Equipment such as USBL and ships echosounder may be used for the duration of the campaign duration. Equipment such as side-scan sonar and SBP may be used for shorter periods within an IMR campaign.

3.6.2.2 Maintenance and Repair

Maintenance and repair activities may need to occur during the operational life of the field to:

- Prevent deterioration and/or failure of infrastructure; and
- Maintain reliability and performance of infrastructure.

Maintenance and repair activities are typically conducted in response to inspection findings, engineering analyses, and/or external events. The activities are typically performed by ROV from a vessel or by divers from a dive support vessel (State and / or Cwth waters).

Table 3-11 summarises the typical maintenance and repair activities that may be undertaken but this list is not exhaustive. The table also includes details of the initiation criteria for the various maintenance programs.

Table 3-11: Summary of Typical Maintenance and Repair Activities

Maintenance and Repair Type	Description	Initiation Criteria
Cathodic protection system maintenance	Replacement of anodes and continuity straps. Installation of cathodic skids (Cwth waters).	Anodes are retrofitted when the existing anodes have depleted.
Leak testing	Leak testing is undertaken as required to verify the pressure integrity of components. Leak testing involves filling the component with water dosed with inhibitor, biocide and dye (normally fluorescent) and pressurising the pipeline to an appropriate test pressure (State and / or Cwth waters).	Where the integrity of the pipeline system must be re-confirmed.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Maintenance and Repair Type	Description	Initiation Criteria
Excavation for intervention	To undertake subsea IMR, localised excavation may be required directly adjacent to the subsea system, allowing access to infrastructure that may have become buried (State and / or Cwth waters). Typically, this is conducted by jetting, equipment from an ROV, vessel, or by using divers, depending on the location, depth, and seabed characteristics. Significant burial (or deburial works) is not expected noting the sand layer in the area is generally thin or non-existent.	Access required to subsea infrastructure that may have become buried, for inspection, maintenance or repair.
Marine growth and hard deposit removal	Marine growth and deposits may be removed by water jetting or manual cleaning from an ROV or by divers to access equipment (State and / or Cwth waters). Water jetting may use potable or sea water. Chemicals, typically sulfamic acid (or equivalent such as citric acid), may be used to assist clean-up for removing limescale.	Access required to subsea infrastructure for inspection, maintenance or repair.
Removal of debris or fishing net	Removal of debris such as ropes and fishing nets that may become entangled on infrastructure (State and / or Cwth waters).	Inspection identifies hazardous debris on infrastructure.
Rectification of electrical or hydraulic fault	Rectification of an electrical or hydraulic fault associated with an umbilical and associated connected equipment. Replacement of electrical/hydraulic/chemical umbilical or jumper, cleaning of connectors, testing of connectors (State and Cwth waters).	Electrical or hydraulic fault.
Pipeline repair	Pipeline repair which may, depending upon the damage the pipeline has sustained, include composite wrap application, mechanical clamp installation, anode retrofit, pipeline cut-out and section replacement (State and / or Cwth waters).	Inspection identifies significant corrosion or damage to pipeline or a LOC from the pipeline.
Pipeline Gauging	Gauging involves the use of a series of pipeline inspection gauges (pigs) which clean and inspect the line (State and / or Cwth waters). A pig launcher and receiver are typically installed at either end of the flowline for this activity. The pigs are pumped from a temporary launcher offshore, through the flowline, to the receiver onshore, where gauging products and associated fluids are collected for processing. Prior to reinstatement of operations the pipeline is displaced to nitrogen.	Gauging may be completed for the existing rigid sections of pipeline to inspect pipe condition as part of the broader integrity management program and depending on future re-life opportunities.
Flowline jumper replacement	Replacement of flowline jumper with either rigid or flexible flowline between existing flange connections (Cwth waters).	Flowline jumper significantly damaged or not functioning.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Maintenance and Repair Type	Description	Initiation Criteria
Service line/hydraulic capping plate removal and reinstallation	Replacement or institute servicing of hydraulic multi quick connect plate including cleaning of interface (ROV and hydraulic) and testing of connections (Cwth waters).	Testing / inspection indicates an issue, or local control / intervention required.
Subsea control unit change out	Replacement or institute servicing of SCM including cleaning of interface (ROV, hydraulic and electrical) and testing of connections (Cwth waters).	SCM significantly damaged or not functioning:
Replacement of equipment on the seafloor	Where subsea equipment cannot be repaired it may be replaced (State and / or Cwth waters). This would typically occur in the same location or near to the previous location.	Subsea equipment significantly damaged or not functioning:
Stabilisation deployment	Mattresses and grout bags maybe used where electrical or hydraulic leads are observed to be "floating" or where further support is required beneath the umbilicals and pipelines (State and / or Cwth waters).	Inspection identified electrical or hydraulic leads "floating" or other infrastructure requires physical protection.
SSTs, flowlines, well bore penetrations, flanges and mechanical connections servicing	Tensioning, blanking or polymer sealant intervention to restore or preserve integrity to subsea conduits (State and / or Cwth waters).	Subsea equipment significantly damaged or not functioning.

Requirements for Impact Assessment	Technical Input						
Describe planned chemical / additive discharges	Occasional subsea discharge of fluids typically treated water, hydraulic fluids and grout.						
	Marine growth removal (subsea discharge in State and / or Cwth waters):						
	<table><tr><th>Fluid Type</th><th>Approximate release volume</th></tr><tr><td>Scale dissolver</td><td>3 m³ in (500 L batch applications)</td></tr></table>	Fluid Type	Approximate release volume	Scale dissolver	3 m³ in (500 L batch applications)		
	Fluid Type	Approximate release volume					
	Scale dissolver	3 m³ in (500 L batch applications)					
	Control System Repair (subsea discharge):						
	<table><tr><th>Fluid Type</th><th>Approximate release volume</th></tr><tr><td>Control Fluid</td><td>Jumper replacement: 30 L (Cwth) Umbilical re-termination: 10 m³ (State and / or Cwth)</td></tr><tr><td>Treated MEG / Methanol</td><td>Jumper replacement: 30 L (Cwth) Umbilical re-termination: 10 m3 (State and / or Cwth)</td></tr></table>	Fluid Type	Approximate release volume	Control Fluid	Jumper replacement: 30 L (Cwth) Umbilical re-termination: 10 m³ (State and / or Cwth)	Treated MEG / Methanol	Jumper replacement: 30 L (Cwth) Umbilical re-termination: 10 m3 (State and / or Cwth)
	Fluid Type	Approximate release volume					
	Control Fluid	Jumper replacement: 30 L (Cwth) Umbilical re-termination: 10 m³ (State and / or Cwth)					
	Treated MEG / Methanol	Jumper replacement: 30 L (Cwth) Umbilical re-termination: 10 m3 (State and / or Cwth)					
Pipeline Repair (subsea discharge in State and / or Cwth waters):							
<table><tr><th>Fluid Type</th><th>Approximate release volume</th></tr><tr><td>Treated Water</td><td>100 m³</td></tr></table>	Fluid Type	Approximate release volume	Treated Water	100 m³			
Fluid Type	Approximate release volume						
Treated Water	100 m³						

Requirements for Impact Assessment	Technical Input	
	Stabilisation deployment (subsea discharge in State and / or Cwth waters):	
	Material	Approximate release volume
	Grout and washings	3 m ³ (grout pumped from surface to expandable grout bags at seabed).
What is the area and nature of any seabed disturbance?	Placement of some tools or equipment on the sea floor for ROV activities in State and / or Cwth waters (~ 5 m ²). Replacement of like for like equipment (~25 m ²) in State and / or Cwth waters, installation of anode skids (~ 5 m ²). Any coatings, marine growth or sand removed from around structures is left in-situ. Grout bags/span rectification materials typically cover an area of 2 m ²	
What is the planned maintenance and repair schedule/frequency	Maintenance and repair activities are expected to be rare and infrequent, with activities anticipated to occur on a 5-yearly frequency, however the exact frequency of maintenance activities will depend on the results of inspections.	
What is the planned maintenance and repair duration	If a repair is required, a vessel may remain on site for approximately 7 – 30 days at a time, depending on the repair. Weather interruptions have the potential to increase overall campaign durations by around 20%, though this can differ from year to year, and can be greater during the winter months.	

3.6.3 Support Operations

3.6.3.1 Vessel Operations

Activities associated with the ongoing operations of the Otway offshore assets will be supported by vessels. Vessels may be contracted from international or Australian suppliers and will vary depending on the proposed activity and vessel availability. Vessels will be used for:

- IMR. Typically, one vessel is hired for IMR activities (State and / or Cwth waters). The type of vessel depends on the work scope. Minor inspection works may be undertaken using inspection class ROV from a small vessel. Maintenance and Repair works may require an ISV or DSV as shown in Figure 3-3.



Figure 3-3: Indicative ISV

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Requirements for Impact Assessment	Technical Input
Persons on Board (POB)	Small vessel: 15-30 DSV, ISV: 70-130
Will vessels be moving within the operational area?	Yes
Will anchoring be required?	Anchoring may be required where it is too shallow to use vessel's dynamic positioning mode (e.g., small vessel close to shore in state waters)
Lighting requirements	Standard lighting for navigation and safe work
Bilge requirements	Standard bilge requirements
Cooling water and brine requirements	Standard cooling water and brine requirements
Sewage requirements	MARPOL compliant sewage treatment system
Hazardous waste	Yes
Ballast water discharge or exchange within territorial sea boundary?	Yes
Estimated fuel consumption (daily)	1 m ³ (small vessel) to >20 m ³ (large vessel). 23m ³ /d has been accounted for within emissions estimates (Section 6.4).
Is refuelling at sea planned?	No
What is the largest expected MDO tank size?	250 m ³
Ancillary equipment may include	Cranes, ROVs

Requirements for Impact Assessment	Technical Input
Vessel Operations Planned marine discharges from the vessels.	For the duration of the activities, in accordance with Marpol and AMSA discharge standards (Cwth waters) and with Victorian Pollution of Waters by Oil and Noxious Substances Act 1986 (State waters). Discharges may include: sewage and grey water, putrescible waste, cooling water, brine and ballast, deck drainage and bilge.
Underwater Sound emissions from dynamic positioning system / thrusters	Continuous; noise levels may vary with environmental conditions and operating requirements, within defined safety parameters (State and / or Cwth waters). Where required to maintain a fixed position or course, conventional vessels utilise dynamic positioning (DP). Typical uptime for DP for an IMR campaign is approximately 75% of the campaign, depending on scope.
Approximate atmospheric emissions (CO ₂ e) from: - Fuel use / power generation - Embedded materials (steel / concrete)	Refer to Section 6.4.

3.6.3.2 ROV Operations

Inspection and / or work-class ROVs are required for inspection, maintenance or repair activities.

A ROV is a tethered underwater vehicle operated by a crew aboard the vessel. The ROV is linked to the vessel by either a neutrally buoyant tether or often when working in rough conditions, deeper water or with large payloads, a load carrying umbilical cable is used along with a tether management system.

ROVs are equipped with a video camera and lights. Additional equipment may include positioning and survey equipment, and various apparatus to support installation and IMR activities. ROVs may utilise electric control system or a closed loop hydraulic control system.

Requirements for Impact Assessment	Technical Input
Describe planned discharges	No planned discharges. Hydraulic fluid is within a closed system.
Provide sonar details, if applicable	Outlined under survey section
Will seabed mooring of ROV occur?	Not planned

3.6.3.3 Helicopter Operations

Helicopters may be used during IMR activities, primarily as a medevac, and occasionally personnel, equipment and material transfers.

Requirements for Impact Assessment	Technical Input
Frequency of flights	Helicopter flights may occur 1-2 times per week during IMP activities.
Underwater sound emissions	Helicopter will result in some level of underwater noise, particularly when at lower altitudes for landing/take-off (Richardson <i>et al.</i> 1995). Continuous noise level limited to tens of metres from the source. Typical helicopter acoustic emissions: < 500 Hz (Richardson et al., 1995)
Approximate atmospheric emissions (CO₂e) from: Fuel use	Refer to Section 6.4.

4 Description of the Environment

A detailed description of the environment is provided in the appendices for all physical, ecological, social and cultural receptors. This section provides regulatory context, description of the environment that may be affected (EMBA), regional setting and a summary of the key ecological, social and cultural receptors.

4.1 Regulatory Context

The OPGGS(E) Regulations 2023 define 'environment' as the ecosystems and their constituent parts, natural and physical resources, qualities and characteristics of areas, the heritage value of places and includes the social, economic and cultural features of those matters.

In accordance with Regulation 21(2) of the OPGGS(E), this section (and associated appendices) describes the physical setting, ecological receptors, and social receptors, of the receiving environment relevant to the described activity.

A greater level of detail is provided for certain receptors, as defined by Regulation 21(3) of the OPGGS(E) Regulations which states that particular relevant values and sensitivities may include any of the following:

- The world heritage values of a declared World Heritage property.
- The national heritage values of a National Heritage place.
- The ecological character of a declared Ramsar wetland.
- The presence of a listed threatened species or listed threatened ecological community (TEC).
- The presence of a listed migratory species.
- Any values and sensitivities that exist in, or in relation to, part or all of:
 - A Commonwealth marine area; or
 - A Commonwealth land.

With regards to 21(3)(d) and (e) more detail has been provided where threatened or migratory species have a spatially defined biologically important area (BIA) – as they are spatially defined areas where aggregations of individuals of a regionally significant species may display biologically important behaviours such as breeding, foraging, resting or migration.

With regards to 21(3)(f) more detail has been provided for:

- Key Ecological Features (KEFs) as they are considered a conservation value under a Commonwealth Marine Area (CMA), and
- Australian Marine Parks (AMPs) as they are enacted under the EPBC Act.

4.2 Environment that May Be Affected

For the purpose of this EP, the description of the environment is based on the largest predicted spatial extent of modelled hydrocarbon exposure, which is the monitoring EMBA. This EMBA by the activity has been defined as an area where a change to ambient environmental conditions may potentially occur as a result of planned activities or unplanned events. It is noted that a change does not always imply that an adverse impact will occur; for example, a change may be required over a particular exposure value or over a consistent period of time for a subsequent impact to occur.

Table 4-1 and Figure 4-1 detail the Project Areas associated with the activity that are used to describe the environmental context relevant to the activity and to support the impact and risk assessments.

Table 4-1: Otway Offshore Operations Project Area descriptions

Project Area	Description
Operational Area	The operational area includes: • 500 m around existing wells and on either side of linear infrastructure: Casino pipeline, the Casino-Pecten East Pipeline. • Planned operational discharges, physical presence and seabed disturbance during the activity will occur within the operational area. The EPBC Protected Matters Report for the operational area is in Appendix 2.
Monitoring EMBA	The boundary of the monitoring EMBA has been defined using the combined hydrocarbon exposure (low) thresholds (Table 6-26) for: • A surface release of 250 m³ marine diesel oil following a vessel collision as described in Section 6.7 and • A subsurface release of 10,563 m³ of condensate following a loss of containment (LOC) based on modelling conducted at Annie-2. This has been used as a conservative proxy for the possible LOC scenarios during CHN operations, as described in Section 6.7. This monitoring EMBA is the area which has the potential to be exposed to hydrocarbons in the event of an accidental release of hydrocarbons; impact monitoring would generally be focussed within this area, hence the term 'monitoring EMBA'. The monitoring EMBA is utilised in determining the geospatial extent of the existing environment and allows for the identification of physical, biological, social and cultural receptors which are described in Section 4.4. Further analysis of the stochastic modelling results (Appendix 5), show the monitoring EMBA to overlap three IMCRA area (Central Bass Strait, Central Victoria and Otway, which are described further in Appendix 3. The EPBC Protected Matters Report for the monitoring EMBA is in Appendix 2.
Aspect potential impact radii	Other aspects of the activity which may impact on the environment, including subsea noise, involve discrete areas that may be affected. These areas are delineated in terms of a contour or potential impact radii around a source and are described in Section 6.



Figure 4-1: Otway Offshore Operations Monitoring EMBA and Operational Area

4.3 Regional Setting

The offshore facilities are located in the Otway marine bioregion (National Oceans Office (NOO), 2002) as classified by the Interim Marine and Coastal Regionalisation for Australia (IMCRA). This bioregion extends from Cape Otway (Vic) to Cape Jaffa (South Australia) and includes the western islands of Bass Strait such as King Island.

The characteristics of the Otway coastline and marine environment include very steep to moderate offshore gradients, high wave energy and cold temperate waters subject to upwelling events (i.e., the Bonney Upwelling) (IMCRA, 1998). Upwelling water is nutrient rich and corresponds with increases in the abundance of zooplankton, which attracts baleen whales and other species (including EPBC-listed species) that feed on the plankton swarms (krill). The Bonney upwelling is seasonal, occurring west of Portland, >100km west of the Otway offshore operations. Upwelling around the operational area is unlikely or occasional (Huang and Wang, 2019).

The Otway basin is well mixed given it is a higher-energy environment exposed to frequent storms and significant waves. Water quality is expected to be good and typical of the offshore marine environment. Average current speeds in the area range between 0.15 m/s to 0.25 m/s, with maximum current speeds 0.61 m/s (Dec) to 1.22 m/s (Mar). Monthly average sea surface temp 13.6°C (Aug) to 17.6°C (Jan/Mar). Salinity is expected to be relatively consistent throughout the year ranging at 35.2-35.6 psu (RPS, 2019a).

The seabed on the Otway shelf is comprised exhumed limestone, is generally rocky with relief that varies substantially including some areas of flat limestone and some of crevices, gutters, pillars and overhanging shelves. Whilst there are some areas of thin overlying sediment (comprising fine-coarse grained sand and calcarenite fragments), the region is starved of terrigenous sediment (Santos 2004, Fugro 2020).

The coastline is generally rocky, with tall cliffs and rock outcrops, some sandy beaches, inlets and settlements. Shoreline habitats of the Otway coastline provide for a range of fauna including penguin colonies, fur seal colonies and bird nesting sites.

4.4 Physical, Biological, Social and Cultural Receptors

The following tables show the presence of physical (Table 4-2), biological (Table 4-3) socio-economic (Table 4-4) and cultural (Section 4.4.4) receptors that may occur within the operational area and spill EMBA. Further descriptions and maps of these physical, biological, ecological, socio-economic and cultural receptors are provided in the Description of the Environment Appendix 3.

Examples of values and sensitivities associated with each of the physical, biological or social-economic receptors have been included in the tables. These values and sensitivities have been identified based on:

- Presence of listed threatened or migratory species or threatened ecological communities identified in the EPBC Protected Matter searches (Appendix 2).
- Presence of BIAs and habitats critical to the survival of the species.
- Presence of important behaviours (e.g., foraging, roosting or breeding) by fauna, including those identified in the EPBC Protected Matter searches (Appendix 2).
- They provide an important link to other receptors (e.g., nursery habitat, food source).
- They provide an important human benefit (e.g., recreation and tourism, aesthetics, commercial species, economic benefit).

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

4.4.1 Physical Receptors

Table 4-2: Presence of Physical Receptors within the Operational Area and monitoring EMBA

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area		Monitoring EMBA	
Physical	Climate	Cool temperate region	N/A	✓	Present The operational area is typical of a cool temperate region with cold, wet winters and warm dry summers. The day-to-day variation in weather conditions is caused by the continual movement of the highs from west to east across the Australian continent roughly once every 10 days.	✓	Present The regional climate is dominated by sub-tropical high-pressure systems in summer and sub-polar low-pressure systems in winter. The low-pressure systems are accompanied by strong westerly winds and rain-bearing cold fronts that move from south-west to north-east across the region, producing strong winds from the west, north-west and south-west.
	Winds	Strong westerly winds found in the Southern Hemisphere between latitudes of 40°S and 50°S	- Cold fronts - Sustained west to south-westerly winds	✓	Present The operational area is subject to wind conditions aligned with the Bass Strait with conditions likely to align with those listed within the monitoring EMBA	✓	Present The monitoring EMBA is located within 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. In summer, frontal systems are often shallower and occur between two ridges of high pressure (HP), bringing more variable winds and rainfall.
	Tides	Long, slow moving waves created by the gravitational pull of the moon	- Intertidal habitat - Fish aggregation - Fauna reproduction - Flora reproduction - Water quality - Maritime navigation	✓	Present The operational area has semi-diurnal tides with some diurnal inequities, generating tidal currents along a north-east/south-west axis, with speeds generally ranging from 0.1 to 2.5 m/s.	✓	Present The monitoring EMBA and wider Otway region experiences semi-diurnal tides. The maximum range of spring tides in western Bass Strait is approximately 1.2 m. Sea level variation in the area can arise from storm surges and wave set up.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
	Current	Directional movement of water driven by gravity, wind and water density	- Controlling climate - Food source - Flora reproduction - Water quality	✓ Present The operational area is subject to current conditions aligned with the Bass Strait with conditions likely to align with those listed within the monitoring EMBA.	✓ Present Average current speeds in the area range between 0.15 m/s to 0.25 m/s, with maximum current speeds 0.61 m/s (Dec) to 1.22 m/s (Mar) (RPS, 2019a). Bottom currents can exceed 0.5 m/s in nearshore areas during storms. In the Port Campbell area, the predominant south-westerly swell direction means that there are minimal longshore currents as most waves reach the shore parallel to the coast. Lateral flushing within Bass Strait results from inflows from the South Australian Current, East Australian Current (EAC) and sub-Antarctic surface waters. During winter, the South Australian current moves dense, salty warmer water eastward from the Great Australian Bight into the western margin of the Bass Strait. In winter and spring, waters within the strait are well mixed with no obvious stratification, while during summer the central regions of the strait become stratified.
	Water Quality	Level of contaminants in water, sediments or biota or to changes in the physical or chemical properties of waters and sediments	- Ecosystem health - Fishing and aquaculture - Recreation and aesthetics - Industrial water supply - Cultural and spiritual	✓ Present The operational area is expected to have water quality typical of the offshore marine environment of the Otway Basin. This is characterised by high water quality with low background concentrations of trace metals and organic chemicals and an undisturbed mid-depth environment.	✓ Present The monitoring EMBA is expected to have the water quality typical of the Bass Strait and Otway Basin which are known for a complex, high energy wave climate and strong ocean currents. Water column turbidity on the Victorian coastline is subject to high natural variability. Weather conditions in the coastal environment around Port Campbell and Port Ferry are known to influence offshore hydrodynamic conditions and are a driver of

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
		relative to a natural state.			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.
	Sea Water Temperature	Heat present within ocean waters	- Fauna behaviour - Fauna reproduction - Fauna distribution and aggregation - Flora community maintenance	✓ Present Sea-surface water temperatures vary seasonally from 13.6°C (Aug) to 17.6°C (Jan/Mar) (RPS, 2019a).	Present The southwest region of Victorian area has significant upwelling of colder, nutrient rich deep water during summer that can cause sea surface temperatures to decrease by 3°C compared with offshore waters.
	Sediment Quality	Level and toxicity of contaminants within sediment	- Sink of dissolved contaminants - Source of bioavailable contaminants to benthic biota	✓ Present The operational area is located within the 400 km-long Otway Shelf, which lies between 37° and 43.5°S and 139.5°E (Cape Jaffa) and 143.5°E (Cape Otway). The seabed along the pipeline routes consists of large tracts exposed caprock (hard calcarenite), some fine to coarse grained sand with variable density and diversity of epifauna and infauna communities. The seabed at the exit point is classified as sand or fine gravel. Beyond 60 m water depth, out to the Casino well sites, the seabed comprises outcrops of hard substrate with very low relief and structural complexity separated by gullies of sand or fine gravel. The seabed along the Casino to Pecten East pipeline area typically consists of low relief rock outcrop with no significant sediment cover in water depths varying from 65 to 70 m. No significant items of debris or major sediment	Present The monitoring EMBA is expected to have sediment quality typical of the surrounding area. Beach Energy conducted an environmental survey of a neighbouring title, located approximately 3 km from the Cooper Energy Otway offshore facilities, from November 2019 to January 2020. Six samples were taken with the sediment predominantly sand with a range of 95-97% as a proportion of each sample. There was also very little silt and a maximum of 4.7% for the clay fraction.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
				obstruction were identified during acoustic surveys. The seabed consists of medium to fine calcareous sand with fragments of calcarenite overlying siltstone / caliginite. It is expected that sediment quality within the Otway offshore fields will be typical of the offshore marine environment of the Otway Basin.	
	Air Quality	The chemical, physical, biological and aesthetic characteristics of air.	- Ecosystem health - Human health - Fauna health	✓ Present The air quality within the operational area will reflect the characteristics of the wider area. Due to local industry activity, there are expected localised and temporary decrease in air quality due to particulate matter from diesel combustion associated with emissions from vessel activities. These are rapidly dispersed around the discharge point due to the local wind regime.	✓ Present Historical air quality data from Cape Grim shows a continuous increase in most GHGs since the mid-to-late 1970s with carbon dioxide levels increasing by more than 15% since 1976, and concentrations of methane and nitrous oxide (N₂O) increasing by around 20% and 8% respectively since 1978. The increase in methane levels however has slowed recently and CFCs and halons are in decline. Increases have been attributed to anthropogenic causes, for example, fossil fuel consumption and agricultural practices.
	Ambient Light	Light present within an environment	- Fauna behaviour - Fauna breeding - Fauna hunting / predation - Circadian rhythms	✓ Present The ambient light within the operational area will reflect the Otway Basin with artificial emissions associated with Otway offshore activities including vessel activity.	✓ Present Ambient artificial light sources associated with offshore activities exist in the Otway region, including both permanent (e.g., onshore/offshore developments) and temporary (e.g., vessels, road traffic) light sources.
	Ambient noise	Level of background sound at a given location	- Fauna behaviour - Fauna breeding - Spatial distribution	✓ Present The operational area will reflect the Otway Basin with noise associated with Otway offshore activities including vessel activities.	✓ Present Natural sea sound sources are dominated by wind noise, but also include rain noise, biological noise and the sporadic noise of earthquakes. Man-made underwater sound sources in the region comprise shipping and small vessel traffic, petroleum-

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
					production and exploration-drilling activities and sporadic petroleum seismic surveys.

4.4.2 Biological Receptors

Table 4-3: Presence of Biological Receptors within the Operational Area and EMBA

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
Benthic Assemblages	Intertidal environment (0-2m)	Comprises rock platform, cliff face and sandy beach	- Foraging habitat - Nesting or Breeding habitat	- Not present (State or Cwth waters) The operational area does not include the intertidal environment.	✓ Present (State waters) Intertidal environment comprises a sandy cove and tidally submerged rock platforms with invertebrate colonisation.
	Shallow environments (2-8m)	Comprises kelp reef, patchy sandy reefs and sand	- Foraging habitat - Nesting or Breeding habitat	- Not present (State or Cwth waters) The operational area does not include the shallow environments.	✓ Present (State waters) Shallow environment comprises kelp reef with hard substrate with numerous epifauna and fish associated. Tracts of open shallow reef and give way to sand characteristically devoid of significant epifauna. But with significant infauna communities.
	Mid-depth environment (8-20m)	Comprises Ecklonia-dominated reef and sand	Foraging habitat Nesting habitat	✓ Present (State waters) Relatively uniform area dominated by sand. With intermittent patch reefs dominated by the brown alga, <i>Ecklonia sp.</i> , with red algae and coralline algae, echinoderms, ascidians, bryozoans and sponges also present.	✓ Present (State and Cwth waters) Mid depth is relatively uniform through the region dominated by sand with intermittent reef patches.
	Deep environment (20-70m)	Comprises sponge-dominated reef and sand.	- Foraging habitat - Nesting or Breeding habitat	✓ Present (State and Cwth waters) Much of the deep environment is defined as hard platform substrates with some patches of thin overlying sand and	✓ Present (State and Cwth waters) Rocky reefs and hard grounds are located in all areas of the south-east marine region continental shelf including Bass Strait, from the sub-tidal zone shore to the

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
				rubble/calcarene fragments. The patchy epifauna and presence of hard platform is consistent with the description of a KEF of the South-East bioregion, that is, shelf rocky reefs and hard substrates. Epifauna was also noted to occur on unconsolidated substrates (sand and gravel) and amongst biogenic rubble. While sponges were present, they were interspersed throughout the patchy epifaunal covering (Fugro, 2020). Notable sponge habitats were identified in association with the Casino pipeline route at location KP 19.5 at 59.3m depth during historical surveys.	continental shelf break. The continental shelf break generally occurs in 50 m to 150–220 m water depth. The shallowest depth at which the rocky reefs occur in Commonwealth waters is approximately 50 m. On the continental shelf, rocky reefs and hard grounds provide attachment sites for macroalgae and sessile invertebrates, increasing the structural diversity of shelf ecosystems. The reefs provide habitat and shelter for fish and are important for aggregations of biodiversity and enhanced productivity (DAWE, 2015).
Coastal Habitats	Rocky Shoreline	Hard and soft, rocky shores, including bedrock outcrops, low platforms, low cliffs (less than five metres), and scarps.	Depending on exposure, rocky shores can be host to a diverse range of flora and fauna, including barnacles, mussels, sea anemones, sponges, sea snails, starfish and algae.	-	✓ Present (State waters) The following areas along the Victorian coastline have known stretches of rocky shore: • The Cape Nelson to Portland coastline • The section of coast between Warrnambool and Cape Otway (covering a distance of ~100 km) • Intertidal rocky shores stretch east to Marengo • Interspersed areas between Marengo east to Anglesea
	Sandy Beaches	Sandy beaches are dynamic environments, naturally fluctuating in response to external forcing factors (e.g.,	Sandy beaches can support a variety of infauna and provide nesting habitat to birds and turtles.	-	✓ Present (State waters) The following areas along the Victorian coastline have known stretches of sandy beach: • Portland to Port Fairy • Port Fairy to Lady Bay (Warrnambool) coastline • Small sections of sandy beach between Warrnambool and Cape Otway

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
		waves, currents etc).			Marengo east to Anglesea
	Mangroves	Mangroves grow in intertidal mud and sand, with specially adapted aerial roots.	- Provide for gas exchange during low tide - Important in helping stabilise coastal sediments - Providing a nursery ground for many species of fish and crustaceans - Providing shelter or nesting areas for seabirds	- Not present (State or Cwth waters) The operational area does not include mangroves.	- Not present (State or Cwth waters) The mangroves in Victoria are the most southerly extent of mangroves found in the world and are located mostly along sheltered sections of the coast within inlets or bays (MESA, 2015). There is only one species of mangrove found in Victoria, the white or grey mangrove (<i>Avicennia marina</i>).
	Coastal Saltmarsh	Saltmarshes are terrestrial halophytic (salt-adapted) ecosystems that mostly occur in the upper-intertidal zone and are widespread along the coast. Saltmarshes are typically dominated by dense stands of halophytic plants such as herbs,	- The vegetation in these environments is essential to the stability of the saltmarsh, as they trap and bind sediments. - Provide a habitat for a wide range of both marine and terrestrial fauna, including infauna and epifaunal invertebrates, fish and birds.	- Not present (State or Cwth waters) The operational area does not include coastal saltmarsh.	✓ Present (State waters) Saltmarsh is found along many parts of the Victorian coast, although is most extensive in western Port Phillip Bay, northern Western Port, within the Corner Inlet-Nooramunga complex which, and behind the sand dunes of Ninety Mile Beach in Gippsland.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
Marine Fauna		grasses and low shrubs.			
	Plankton	Phytoplankton and zooplankton	Food Source	✓ Present (State and Cwth waters) Phytoplankton and zooplankton are widespread throughout oceanic environments and is expected to occur within the operational area. Populations near the Otway offshore assets 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.	✓ Present (State and Cwth waters) Phytoplankton and zooplankton are widespread throughout oceanic environments and is expected to occur within the monitoring EMBA with a high level of diversity. Coastal krill 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. Increased abundance and productivity can occur in areas of upwelling. The seasonal Bonney Coast upwelling contributes to locally productive pelagic habitats that exhibit a range of zooplankton. Plankton distribution is dependent upon prevailing ocean currents including the East Australia Current, flows into and from Bass Strait and Southern Ocean water masses.
	Marine Invertebrates	Benthic and pelagic invertebrate communities	- Food Source - Commercial Species	✓ Present (State and Cwth waters) Invertebrate species located in the vicinity of the Otway offshore pipeline alignment include sponges, annelids, ascidians, hydrozoans, bryozoans, molluscs, krill and crustaceans.	✓ Present (State and Cwth waters) A variety of marine invertebrate species may occur within the monitoring EMBA with high diversity with patchy distribution. Invertebrate diversity is high in southern Australian waters with distribution of species patchy, with little evidence of any distinct biogeographic regions.
	Fish	Fish	Commercial species	✓ Present (State and Cwth waters)	✓ Present (State and Cwth waters)

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
				<u>Commonwealth commercial fish species</u> that may possibly intersect Otway offshore assets include: • Elephantfish • Gummy shark • Sawshark <u>State commercial fish species</u> that do or are likely to intersect Otway offshore assets include: • Rock lobster • Eastern rock lobster • Blacklip abalone • Greenlip abalone • Southern rock lobster	<u>Commercial fish species</u> that may possibly occur within the monitoring EMBA include: • Southern Jig Squid • Elephantfish • Gummy shark • Sawshark <u>State commercial fish species</u> that intersect the monitoring EMBA include: • Rock lobster • Eastern rock lobster • Blacklip abalone • Greenlip abalone • Southern rock lobster
			EPBC Act protected species	✓ Present Thirty fish species are listed as having the potential to occur within the operational area on the EPBC Act PMST (26 of which are pipefish, pipehorses, seadragons, seahorses and mother of pearl). <u>Threatened species</u> that may be present within the operational area include: • Blue Warehou • Southern Bluefin Tuna • Australian Grayling • Great White Shark • Eastern School Shark • Eastern Dwarf Galaxias • Yarra Pygmy Perch	✓ Present Species present in the monitoring EMBA are largely cool temperate species, common within the South Eastern Marine Region. Forty fish species are listed as having the potential to occur within the monitoring EMBA on the EPBC Act PMST (29 of which are pipefish, pipehorses and seahorses). <u>Vulnerable species</u> identified within the monitoring EMBA include: • Eastern Dwarf Galaxias • Yarra Pygmy Perch • Australian Grayling • Great White Shark Conservation Dependant species identified within the spill monitoring EMBA include:

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
	Avifauna	Birds that live or frequent the coast or ocean	EPBC Act protected species Biologically Important Areas (BIAs)	<u>Migratory species</u> include species that may be present within the operational area include: • Great White Shark • Shortfin Mako • Mackerel Porbeagle <u>BIA</u> <u>The operational area intersects the distribution BIA for the White Shark (Cwth waters).</u>	• Southern Dogfish • Orange Roughy • Eastern School Shark • Blue Warehou • Southern Bluefin Tuna <u>BIA</u> The monitoring EMBA intersects distribution (Cwth waters) and foraging (State and Cwth) BIAs for the White Shark.
				Present There are 59 threatened, migratory or listed marine species that may occur within the operational area are protected under the EPBC Act. <u>Critically Endangered</u> • Eastern Curlew, Far Eastern Curlew • Orange-bellied Parrot • Curlew Sandpiper • Swift Parrot • Regent Honeyeater <u>Endangered</u> • Red Knot • Grey-headed Albatross • Southern Giant-Petrel • Northern Royal Albatross • Shy Albatross • Australian Painted Snipe • Gang-gang Cockatoo	✓ Present Ninety-two bird species (or species habitat) may occur within the monitoring EMBA. There are 42 threatened bird species that may occur within the monitoring EMBA. <u>Critically endangered</u> • Curlew Sandpiper • Great Knot • Swift Parrot • Orange-bellied Parrot • Eastern Curlew, Far Eastern Curlew • Regent Honeyeater • Plains-wanderer <u>Endangered species</u> • Northern Royal Albatross • Southern Giant Petrel • Gould's Petrel • Shy Albatross

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
			FFG Act listed	- Gould's Petrel - Australasian Bittern <u>BIA</u> The operational area intersects nine likely and known foraging BIAs (State and / or Cwth waters): - Wedge-tailed Shearwater - Wandering Albatross - Antipodean Albatross - Common Diving-petrel - Bullers Albatross - Shy Albatross - Indian Yellow-nosed Albatross - Black-browed Albatross - Campbell Albatross <u>FFG Act</u> There are 14 FFG protected species located within the operational area: - Buller's Albatross - Pacific Albatross - Common Sandpiper - Curlew Sandpiper - Eastern Curlew, Far Eastern Curlew - Grey-headed Albatross - Indian Yellow-nosed Albatross - Northern Buller's Albatross, - Pacific Albatross - Orange-bellied Parrot - Red Knot, Knot - Sooty Albatross	- Grey-headed Albatross - Red Knot - Lesser Sand Plover - Australian Painted Snipe - Australasian Bittern - Gang-gang Cockatoo <u>BIA</u> The monitoring EMBA intersects sixteen seabird and shorebird BIAs. The identified BIAs within the monitoring EMBA are related to foraging, breeding and aggregation (State and / or Cwth waters). <u>FFG Act</u> There are 41 FFG protected species located within the spill monitoring EMBA: - Australasian Bittern - Australian Painted Snipe - Bar-tailed Godwit - Black-tailed Godwit - Buller's Albatross - Common Greenshank - Common Sandpiper - Curlew Sandpiper - Eastern Curlew - Fairy Tern - Great Knot - Greater Sand Plover - Grey Falcon - Grey Plover - Grey-headed Albatross - Grey-tailed Tattler
				- Gould's Petrel - Australasian Bittern <u>BIA</u> The operational area intersects nine likely and known foraging BIAs (State and / or Cwth waters): - Wedge-tailed Shearwater - Wandering Albatross - Antipodean Albatross - Common Diving-petrel - Bullers Albatross - Shy Albatross - Indian Yellow-nosed Albatross - Black-browed Albatross - Campbell Albatross <u>FFG Act</u> There are 14 FFG protected species located within the operational area: - Buller's Albatross - Pacific Albatross - Common Sandpiper - Curlew Sandpiper - Eastern Curlew, Far Eastern Curlew - Grey-headed Albatross - Indian Yellow-nosed Albatross - Northern Buller's Albatross, - Pacific Albatross - Orange-bellied Parrot - Red Knot, Knot - Sooty Albatross	- Grey-headed Albatross - Red Knot - Lesser Sand Plover - Australian Painted Snipe - Australasian Bittern - Gang-gang Cockatoo <u>BIA</u> The monitoring EMBA intersects sixteen seabird and shorebird BIAs. The identified BIAs within the monitoring EMBA are related to foraging, breeding and aggregation (State and / or Cwth waters). <u>FFG Act</u> There are 41 FFG protected species located within the spill monitoring EMBA: - Australasian Bittern - Australian Painted Snipe - Bar-tailed Godwit - Black-tailed Godwit - Buller's Albatross - Common Greenshank - Common Sandpiper - Curlew Sandpiper - Eastern Curlew - Fairy Tern - Great Knot - Greater Sand Plover - Grey Falcon - Grey Plover - Grey-headed Albatross - Grey-tailed Tattler

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
				- Southern Giant Petrel - Southern Royal Albatross - Wandering Albatross	- Eastern Hooded Plover - Indian Yellow-nosed Albatross - Lesser Sand Plover - Little Tern - Magpie Goose - Marsh Sandpiper - Northern Giant Petrel - Orange-bellied Parrot - Pacific Golden Plover - Painted Honeyeater - Regent Honeyeater - Red Knot - Ruddy Turnstone - Shy Albatross - Sooty Albatross - Southern Giant Petrel - Southern Royal Albatross - Swift Parrot - Terek Sandpiper - Wandering Albatross - Whimbrel - White-bellied Sea Eagle - White-faced Storm Petrel - White-throated Needletail - Wood Sandpiper <u>Iconic species</u> Several populations of the little penguin occur within Bass Strait, with nesting sites located on islands within Bass Strait and at various mainland shorelines. Penguin colonies known to occur in the southwest region of Victoria that are within the monitoring EMBA include

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
					Lady Julia Percy Island (2,000 breeding pairs), Twelve Apostles-London Arch (1,000 breeding pairs), Middle Island (200 breeding pairs) and Merri Island (200 breeding pairs).
Marine Reptiles	Turtles		EPBC Act Protected Species	✓	Present
			FFG Act listed	Present Three marine turtle species are likely to occur within the operational area: <u>Endangered</u> - Leatherback Turtle - Loggerhead Turtle <u>Vulnerable</u> - Green Turtle This is considered vulnerable and migratory <u>FFG Act</u> The Leatherback Turtle is listed as Critically Endangered under the FFG Act and identified within the operational area <u>BIA</u>	Three species of marine turtle listed as endangered under the EPBC Act may occur within the monitoring EMBA <u>Endangered</u> - Leatherback Turtle - Loggerhead Turtle <u>Vulnerable</u> - Green Turtle <u>FFG Act</u> The Leatherback Turtle is listed as Critically Endangered under the FFG Act and identified within the monitoring EMBA. <u>BIA</u>
			BIAs		

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
				No BIAs or Habitat Critical areas are within the operational area (State or Cwth waters).	There are no BIAs or Habitat Critical areas identified for EPBC Act listed turtles within the monitoring EMBA (State or Cwth waters).
	Marine Mammals	Seals and Sealions (Pinnipeds)	EPBC Act Protected Species	✓ Present (State and Cwth waters) Two pinniped Listed Marine Species may occur within the operational area • Australian Fur-seal • NZ Fur-seal <u>FFG Act</u> • NZ Fur-seal	✓ Present State and Cwth waters) Three pinniped species (or species habitat) may occur within the monitoring EMBA. <u>Threatened Species</u> Of the identified listed marine species, the pinniped species within the monitoring EMBA include: • One Endangered marine species (Australian sea-lion) • Two additional marine species (NZ fur seal and Australian fur seal). <u>FFG Act</u> • NZ Fur-seal
		Cetaceans – whales and dolphins	EPBC Act Protected Species	✓ Present (State and Cwth waters) Fourteen cetacean species (7 whales, 7 dolphins) are listed under the EPBC Act PMST as possibly occurring within the operational area. Two species are threatened under the FFG Act and there are 4 BIAs that intersect the operational area: <u>Endangered</u>	✓ Present (State and Cwth waters) Twenty-nine cetacean species are listed under the EPBC Act PMST as possibly occurring within the monitoring EMBA. Four whale species are threatened, and three whale species are also threatened under the FFG Act. <u>Endangered Species</u> • Blue whale • Southern right whale

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
			FFG Act	• Southern right whale • Blue whale • <u>Vulnerable</u> • Sei whale • Fin whale • <u>Threatened under FFG Act</u> • Blue whale • Southern right whale • <u>BIA</u>	• <u>Vulnerable Species</u> • Sei whale • Fin whale • <u>Threatened under FFG Act</u> • Blue whale • Southern right whale • Humpback whale • <u>BIA</u> The monitoring EMBA intersects a possible foraging and distribution BIA for the PBW (State and Cwth waters) and SRW reproduction (State waters) and a migration (State and Cwth waters) BIAs.
				• Pygmy blue whale distribution (State and Cwth waters) • Pygmy blue whale foraging (State and Cwth waters) • Southern right whale migration BIA (State and Cwth waters) • Southern right whale reproduction BIA (State waters)	• <u>BIA</u>
Invasive Species	Marine Pests	Established and Exotic	Introduced marine species	• Not identified (State and / or Cwth waters) Marine pests have not been identified within the operational area to date, though the potential exists for marine pests to establish through natural and anthropogenic influences.	• Present (State waters and / or Cwth waters) • In the South-east Marine Region, 115 marine species are known to be introduced, and an additional 84 are considered to be possible introductions or 'cryptogenic' species. Eleven species are considered to be invasive marine species (IMS). Key known pest species in the South-East Marine Region include: • Northern pacific sea star (<i>Asterias amurensis</i>). • Fan worms (<i>Sabella spallanzanii</i> and <i>Euchone sp.</i>). • Bivalves (<i>Crassostrea gigas</i> (Pacific oyster), <i>Corbula gibba</i> and <i>Theora fragilis</i>). • Crabs (<i>Carcinus maenas</i> (European shore crab) and <i>Pyromaiatuberculata</i>). • Macroalgae (<i>Undaria pinnatifida</i> (Japanese giant kelp) and <i>Codium fragile ssp.tormentosoides</i>); and

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
					The introduced NZ screw shell (<i>Maoricolpus roseus</i>), known to form extensive and dense beds on the sandy sea-floor in eastern Bass Strait spreading to the 80 m depth contour off eastern Victoria and NSW (Patil <i>et al.</i>, 2004).
	Marine Viruses	Infection agent found in marine environments	Introduced virus species	✓ Present (State waters) Marine viruses within the Operating Area are anticipated to reflect the conditions of the south-east marine region.	✓ Present (State waters) Abalone Viral Ganglioneuritis (AVG), has been detected in southwest Victoria and was confirmed as far east as White Cliffs near Johanna, and west as far as Discovery Bay Marine Park (Department of Primary Industry (DPI), 2009). More recently in May 2021 wild abalone off the coast of Cape Nelson tested positive to AVG.

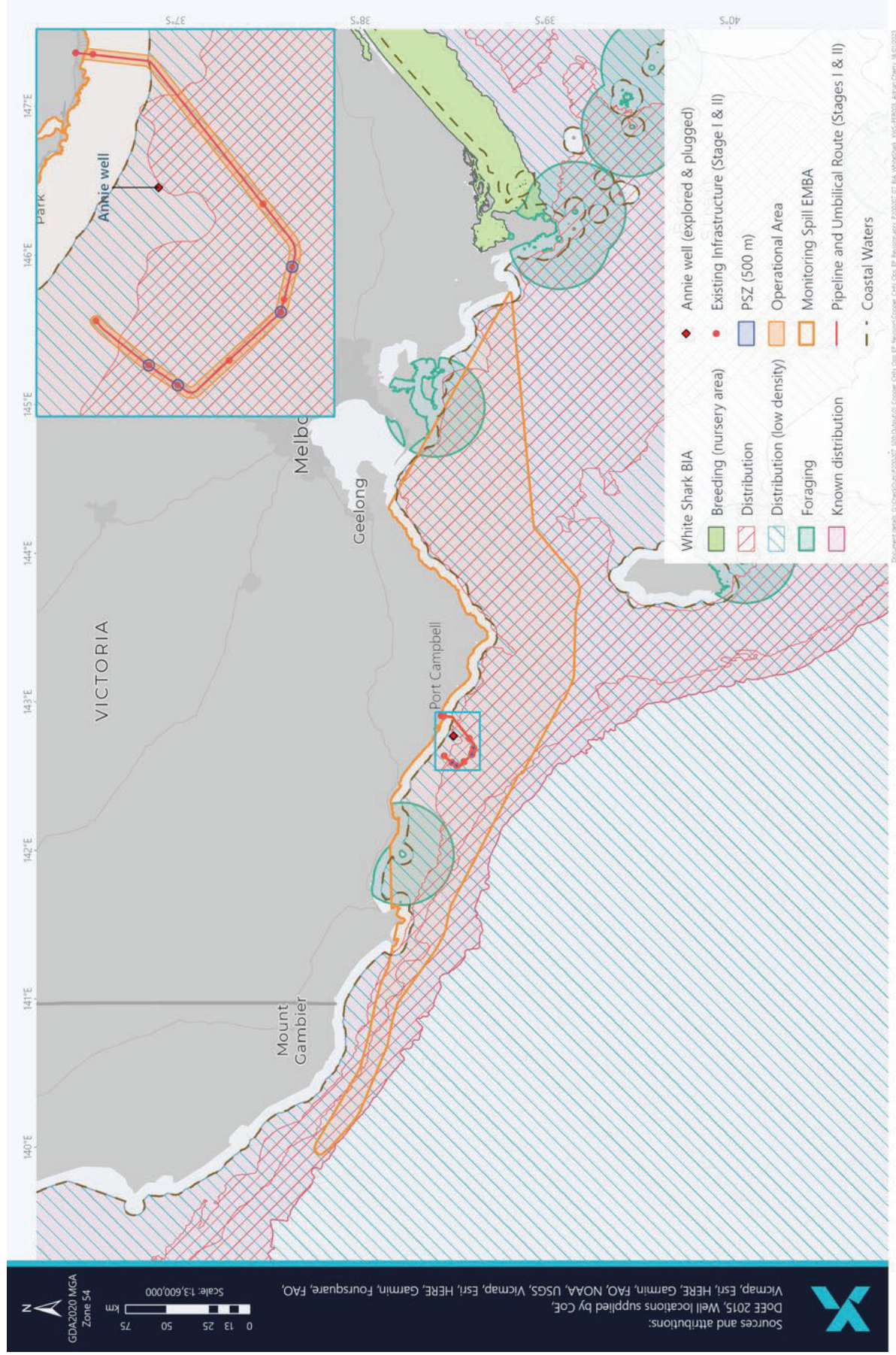


Figure 4-2: White Shark BIAs within the Operational Area and EMBA

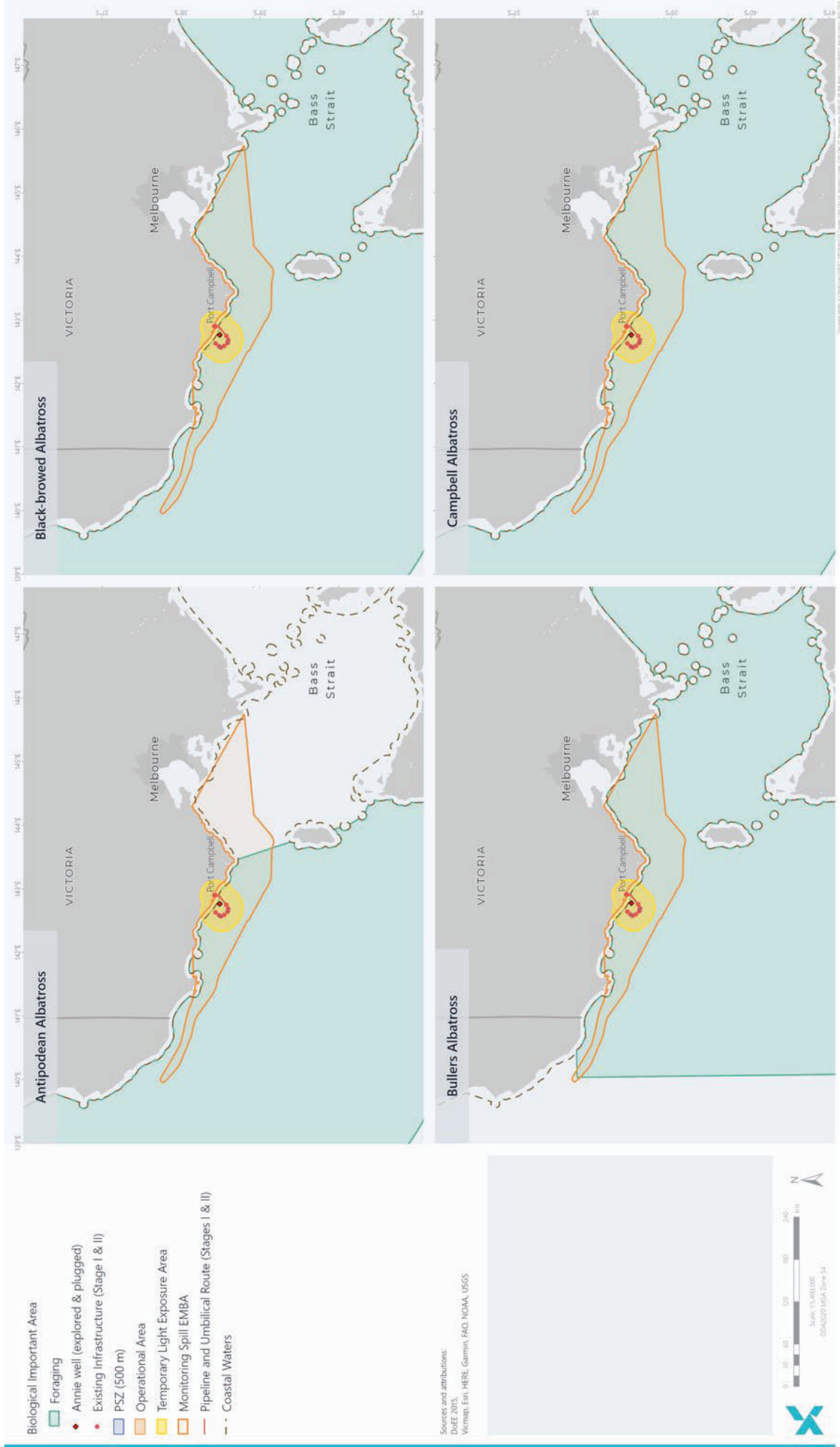


Figure 4-3: Albatross BIAs within the Operational Area

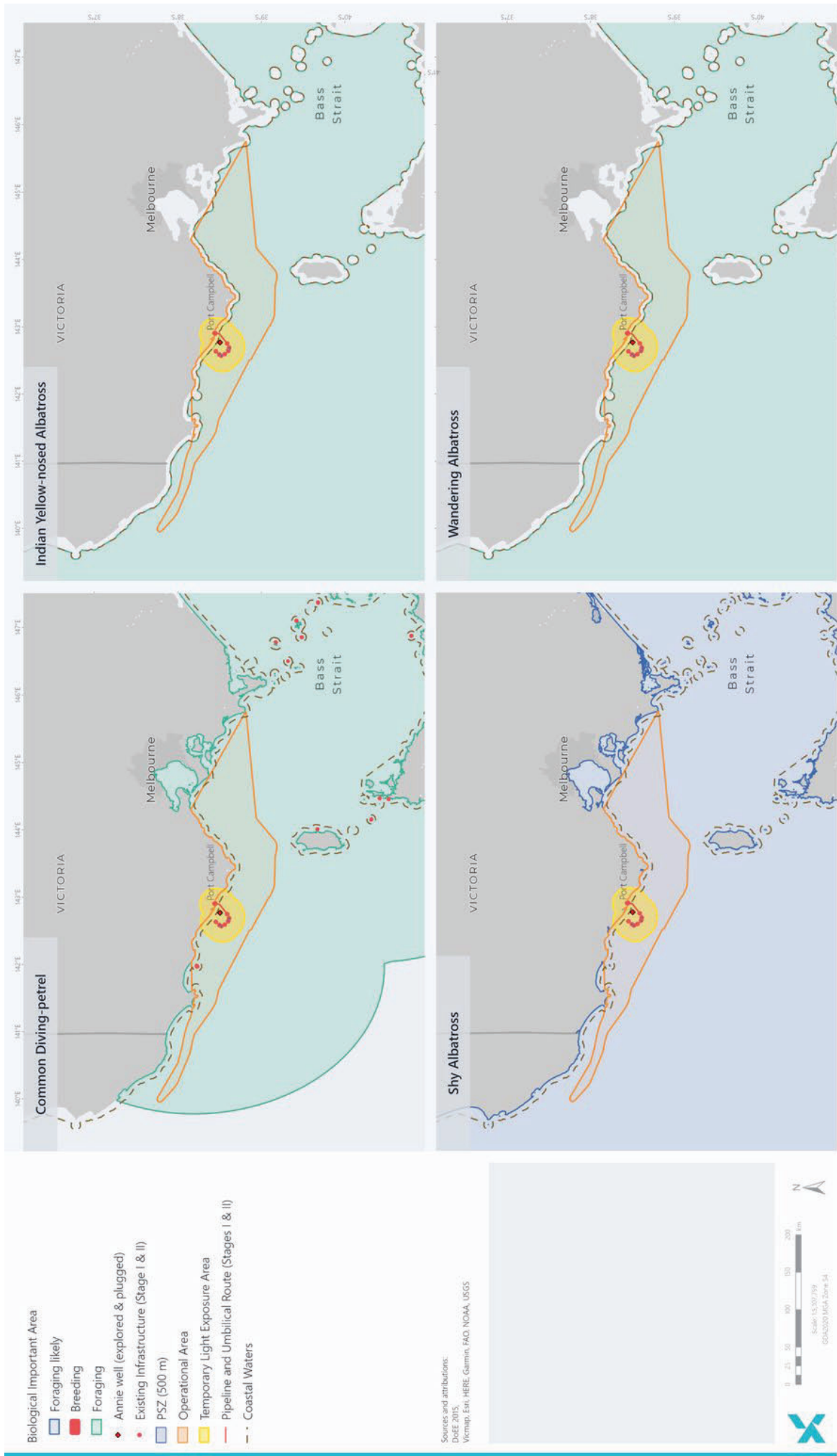


Figure 4-4: Petrel and Albatross BIAs within the Operational Area, Light Exposure Area and Potential Monitoring Spill EMBA

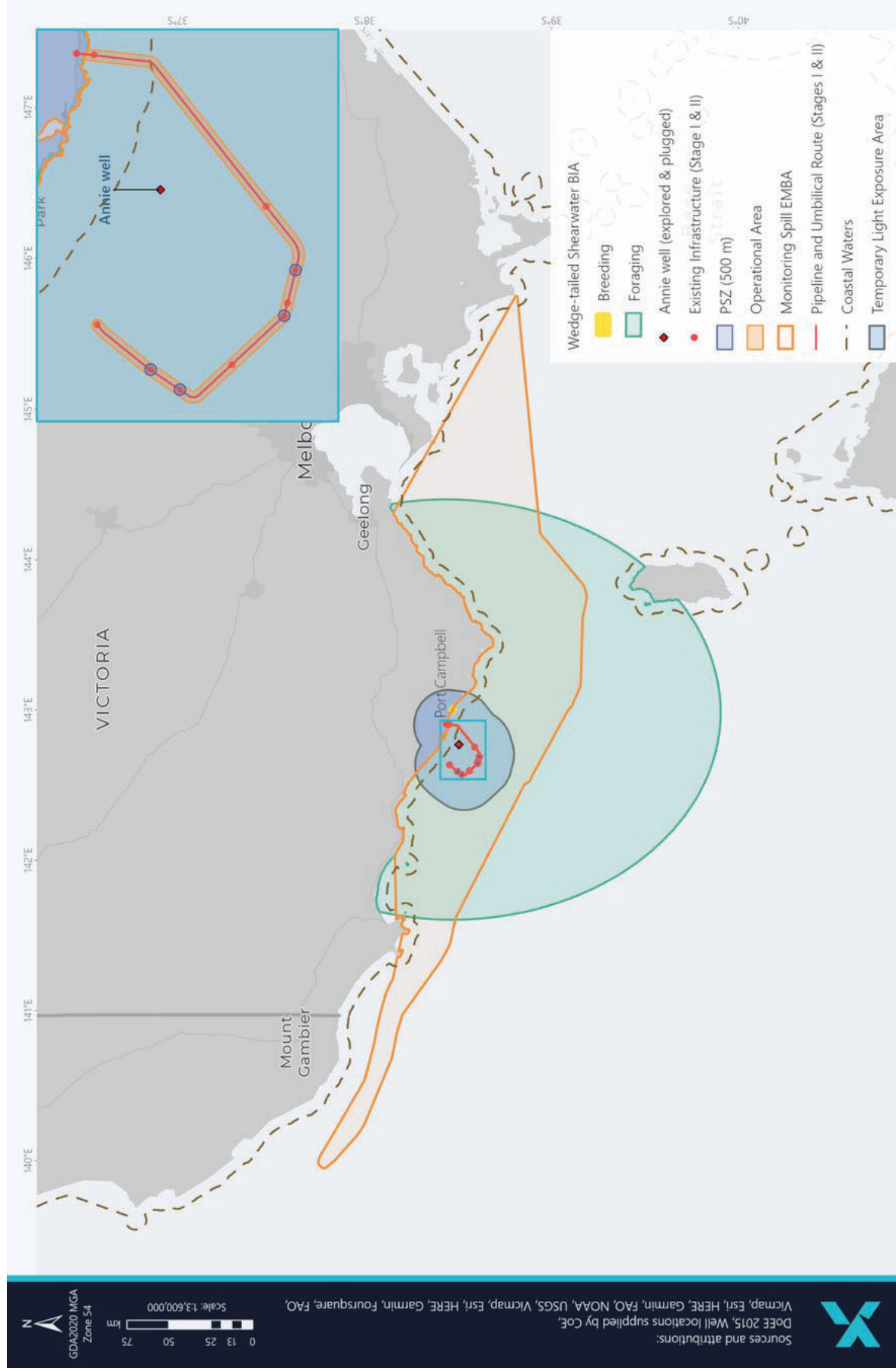


Figure 4-5: Wedge-tailed Shearwater BIA within the Operational Area, Light Exposure Area and Potential Monitoring Spill EMBA

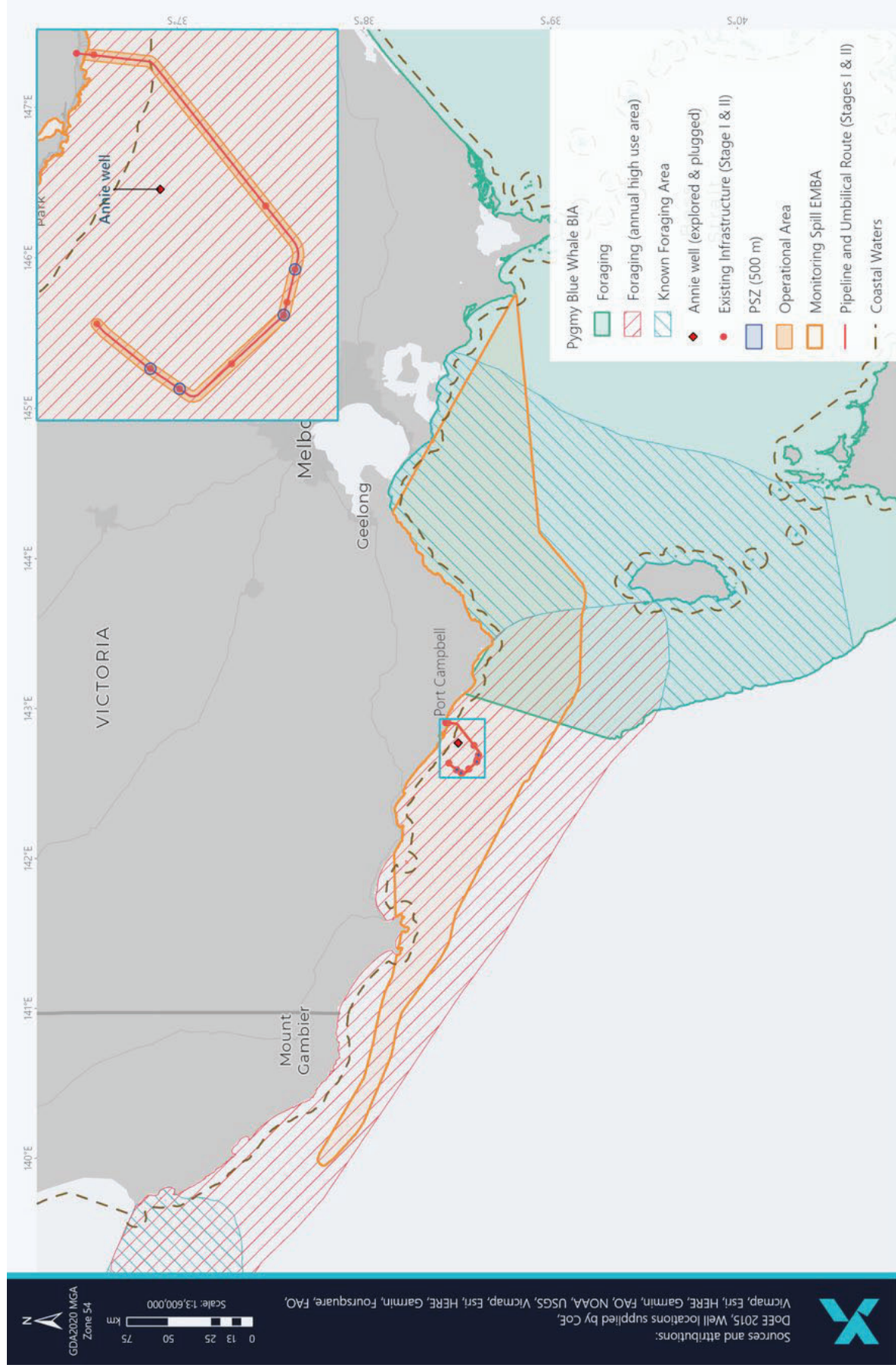


Figure 4-6: Pygmy Blue Whale BIAs within the Operational Area

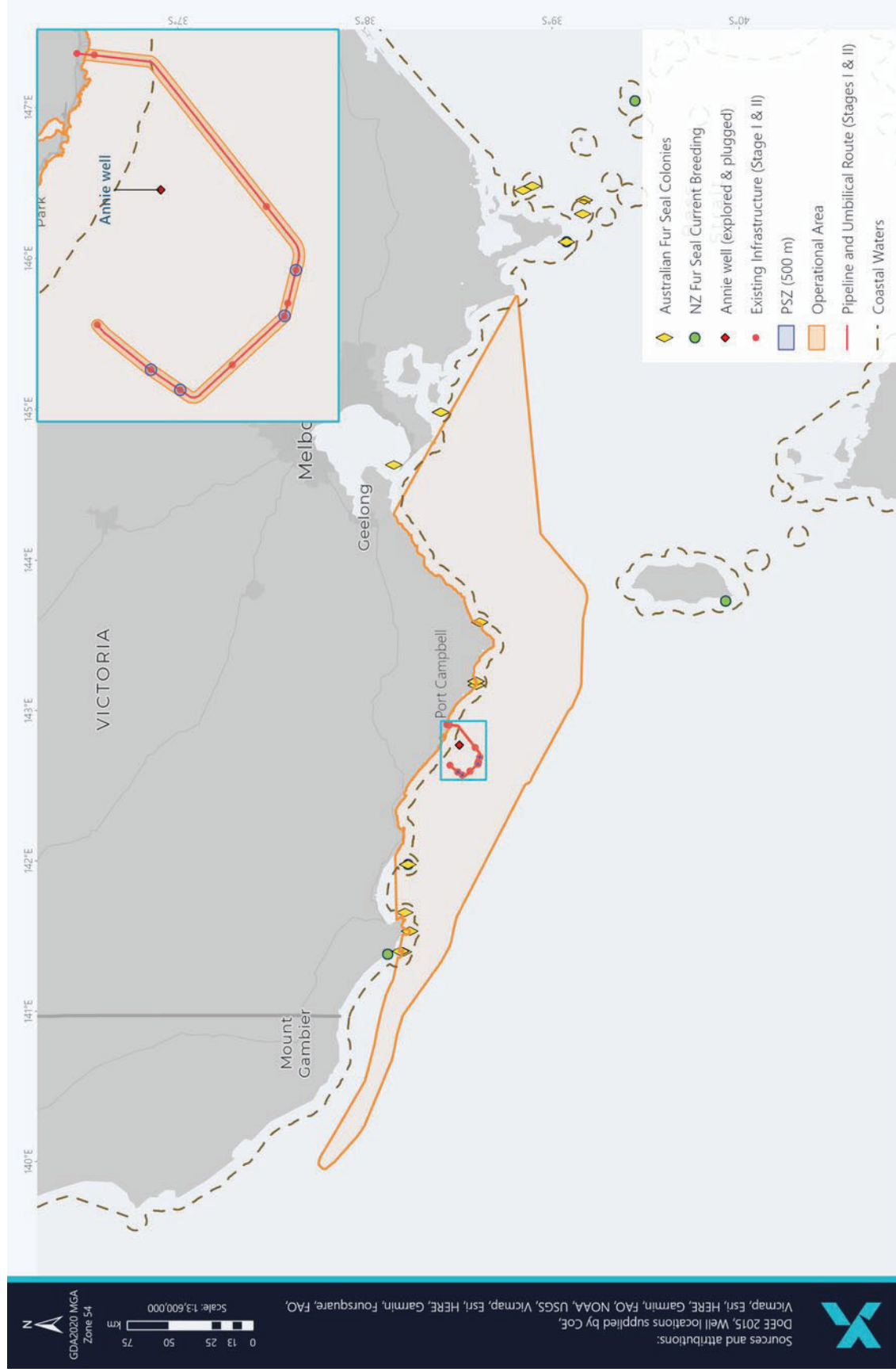


Figure 4-8 Seal colonies proximity to Operational Area

4.4.3 Social Receptors

Table 4-4: Presence of Social Receptors within the Operational Area and EMBA

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
Socio – ecological System	Commonwealth Marine Area	KEF	- High productivity (includes episodic productivity) - Aggregations of marine life - High biodiversity - High level of endemism - Unique Habitat	- Not Present The operational area does not intersect with any delineated KEFs. There are areas of rocky reef and hard substrate within the operational area. Rocky reefs and hard grounds are located in all areas of the south-east marine region on the continental shelf.	✓ Present The monitoring EMBA intersects the Bonney Upwelling KEF (53 km) northwest of the Otway assets. Shelf Rocky reefs and hard substrates are also expected to be located in all areas of the south-east marine region on the continental shelf.
		Australian Marine Parks	- Aggregations of marine life - High productivity and biodiversity - Unique habitat	- Not Present The operational area does not intersect any Australian Marine Parks.	✓ Present One Australian Marine Park is intersected by the monitoring EMBA: Apollo AMP (Multiple Use Zone (IUCN VI))
	Commonwealth Area	Threatened Ecological Communities	- Support ecosystem services - Provide habitat - Community at risk of extinction	- Not Present The operational area does not intersect any Threatened Ecological Communities.	✓ Present Nine TEC are likely or may occur within the monitoring EMBA. Three have coastal areas: - Giant kelp marine forests of South East Australia (Endangered) - Subtropical and Temperate Coastal Saltmarsh (vulnerable) - Assemblages of species associated with open-coast salt-wedge estuaries of

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
	State Parks and Reserves	Marine Protected Areas	- Aggregations of marine life - High productivity - Biodiversity	-	western and central Victoria ecological community (Endangered) Present 8 State Marine Protected Areas located within the monitoring EMBA including: 3 Victorian Marine National Parks 5 Victorian Marine Sanctuaries
		Terrestrial Protected Areas	- Aggregations of terrestrial life - High productivity - Biodiversity	-	Present 34 State Terrestrial Protected Areas located within the monitoring EMBA including: 3 Victorian Terrestrial National Parks
	Wetlands of International Importance	Ramsar wetlands (International Importance)	Aggregation, foraging and nursery habitat for marine life	-	Not Present There are no Wetlands of International Importance within the monitoring EMBA. There are however two located within 10 km of the monitoring EMBA which include: - The Glenelg Estuary and Discovery Bay Wetlands - Port Phillip Bay (Western Shoreline) and Bellarine Peninsula
		National Importance Wetlands	Aggregation, foraging and nursery habitat for marine life	-	Present The monitoring EMBA intersects with three Nationally Important Wetlands which have connection to the ocean or tidal inputs: - Aire River - Lower Aire River - Prinetown Wetlands

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
	Heritage	Underwater Heritage (wrecks and aircraft)	Historic significance	- Not present The operational area does not intersect any historic shipwrecks or aircraft.	✓ Present Wrecks closest to the Otway offshore assets include: • Napier • Nowra • Newfield • Young Australian • Schomberg • Falls of Halladale • Unnamed (located west of Peterborough in waters less than 10 m deep) • Loch Ard • Frankston • RAAF – B25 • USAF – B57 • Twin Engine – Lady Julia Percy Is
		World Heritage Properties	Protection of environmental and cultural heritage.	- Not Present There are no World Heritage Properties in the operational area.	- Not Present There are no World Heritage Properties in the monitoring EMBA.
		Commonwealth Heritage Places		There are no marine or coastal places on the Commonwealth Heritage list in the operational area.	There are no Commonwealth Heritage Places within the monitoring EMBA.
		National Heritage Places		There are no National Heritage Places in the operational area.	There is one National Heritage place within the monitoring EMBA, Great Ocean Road and Scenic Environments.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
Socio-economic Systems	Commercial Fisheries	Commonwealth managed	Economic benefit Water quality	✓ Present The operational area intersects the management areas for seven Commonwealth-managed fisheries: • Bass Strait Central Zone Scallop • Eastern Tuna and Billfish • Skipjack (eastern) • Small Pelagic (western sub-area) • Southern and Eastern Scalefish and Shark (SESS) • Southern Bluefin Tuna • Southern Squid Jig However, possible activity within the monitoring EMBA is expected for the SESS – Shark Gillnet and Shark Hook sector and the Southern Jig Squid Fishery.	Present The monitoring EMBA intersects the management areas for the seven Commonwealth-managed fisheries: • Bass Strait Central Zone Scallop • Eastern Tuna and Billfish • Skipjack (eastern) • Small Pelagic (western sub-area) • Southern and Eastern Scalefish and Shark (SESS) • Southern Bluefin Tuna • Southern Squid Jig However, possible activity within the monitoring EMBA is expected for the SESS – Shark Gillnet and Shark Hook sector and the Southern Jig Squid Fishery.
		State Managed – Vic	Economic benefit Water quality	✓ Present Victorian fisheries are managed by DJSIR (Fisheries) and may overlap Commonwealth (Fisheries) and may overlap Commonwealth fisheries areas. The operational area is	Present Victorian fisheries are managed by DJSIR (Fisheries) and may overlap Commonwealth fisheries areas. The monitoring EMBA is likely to intersect the management areas for the following six state-managed fisheries:

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
				likely to intersect the management areas for the following six state-managed fisheries: • Rock Lobster Fishery • Giant Crab Fishery • Abalone Fishery • Scallop • Wrasse Fishery • Ocean General However, likely or definite activity around the Otway offshore assets is expected for the Rock Lobster, Giant Crab, Ocean General (octopus), Abalone and Wrasse fisheries.	• Rock Lobster Fishery • Giant Crab Fishery • Abalone Fishery • Scallop • Wrasse Fishery • Ocean General However, likely or definite activity around the Otway offshore assets is expected for the Rock Lobster, Giant Crab, Ocean General (octopus), Abalone and Wrasse fisheries.
	Recreational Fisheries	State-managed	• Community • Recreation • Water quality	✓ Present Recreational fishing includes rock, beach, boat and estuary fishing, using rod and line. Common inshore fish species caught by recreational fishers include: • Sand flathead • John dory • Jackass morwong • Silver trevally • Barracouta	✓ Present Recreational fishing includes rock, beach, boat and estuary fishing, using rod and line. Fishing licences are required for inland and ocean fishing. Common inshore fish species caught by recreational fishers include: • Sand flathead • John dory • Jackass morwong • Silver trevally • Barracouta

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
				- Jackass morwong - Silver trevally - Barracouta - Mullet - Common species caught at Curdies Inlet include: - Black bream - Estuary perch - Mullet - Australian salmon Most recreational fishing typically occurs in nearshore coastal waters (shore or inshore vessels) and within bays and estuaries. Recreational fishing activity is expected to be minimal in the operational area.	- Mullet - Common species caught at Curdies Inlet include: - Black bream - Estuary perch - Mullet - Australian salmon Fishing charter operators provide deeper water recreational fishing opportunities (such as tuna fishing)
	Recreation and Tourism	Victoria	- Economic benefit - Community - Recreation - Water quality	-	✓ Present Key activities include sight-seeing, surfing, diving and snorkelling and fishing however, these are generally land-based or near-shore activities and are not impacted by the facilities and associated activities. The assets and Otway offshore activities are located in an area adjacent the Otway coastline, which is located on the Great Ocean Road, a popular tourist drive.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
	Coastal Settlements	Victoria	- Economic benefit - Community engagement - Recreation	- Not present The operational area does not include coastal and onshore environments. Port Campbell is adjacent the operational area.	✓ Present The communities of Apollo Bay, Princetown, Port Campbell, Peterborough, Warrnambool, Port Fairy and Portland all provide services to the commercial and recreational fishing industries in southwest Victoria. Port Campbell is the nearest town to the offshore facilities.
	Industry	Shipping	Safe navigation	✓ Present The offshore facilities are located at the northern extremity of areas with high traffic volumes. The highest density shipping occurs in the southern-most part of Vic/L30 and Vic/L24. There are no designated shipping lanes in the vicinity of the facilities, however local commercial fishing vessels utilise the area.	✓ Present 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.
		Petroleum Production	Economic benefit	✓ Present The operational area comprises Cooper Energy assets. The Minerva gas pipeline occurs	✓ Present The Otway Gas Field Development consists of a remotely operated platform (at Thylacine) (~35 km south of the Casino wells), offshore and onshore pipelines and the Otway Gas Plant.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
				immediately adjacent to the northern portion of the Casino gas pipeline. Minerva offshore facilities are currently suspended and <u>decommissioning planning is underway.</u> The Thylacine/Geographe gas pipeline is located 1.8 km to the east of the northern (shallow water) portion of the Casino gas pipeline.	The Halladale production well is located 13 km north of the Netherby production well.
	Petroleum Exploration		Economic benefit	Present Cooper Energy facilities and extend across existing Petroleum exploration Titles including VIC/P76 (Cooper Energy is Titleholder). VIC/P44 is the original Petroleum Exploration Title for the Otway offshore development from which the production licences have been excised.	Present Numerous exploration wells have been drilled and seismic surveys have been undertaken in the permits of the Otway Basin, the most recent being the Beach Energy Artisan-1 exploration well (VIC/P43) in 2021 and Schlumberger Otway Basin 2D Marine Seismic Survey in 2020. Beach Energy production assets including subsea facilities at Geographe and Thylacine Platform are to the southeast of the Cooper Energy facilities, with the Thylacine export pipeline to shore running parallel.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Receptor Description	Values and Sensitivities	Operational Area	Monitoring EMBA
	Other Offshore Infrastructure	Defence Activities	Protection and surveillance	- Not present There are no military areas within the operational area.	✓ Present Five training areas are located more than 150 km east of the Otway offshore assets, in and around Port Phillip Bay and Western Port Bay. Detailed existing environment descriptions of defence areas within the monitoring EMBA is described Appendix 3.
		Subsea Communication Cables	Economic benefit	- Not present There are no subsea communication cables within the operational area.	✓ Present Three subsea communications cables are located within the monitoring EMBA: • Bass Strait-2 • East Coast Cable System • Hawaiki Nui
		Desalination Plant	Water quality	- Not present There are no desalination plant water intakes within the operational area.	- Not present Victorian Desalination Project water intake is 800 m offshore at approximately 15 m below the surface off Williamson's Beach Victoria, east of Western Port.

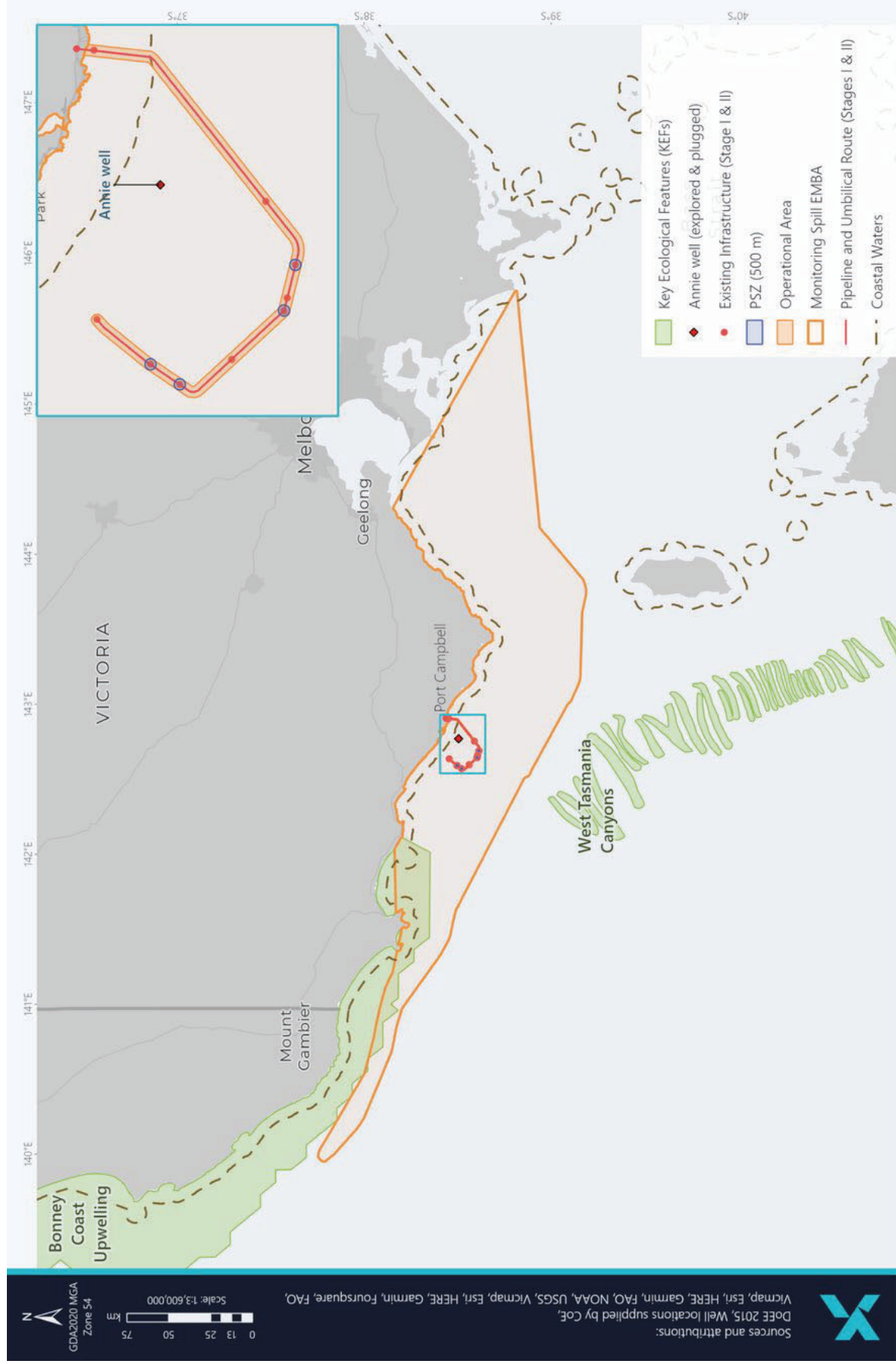


Figure 4-9: KEFs within the Operational Area and EMBA

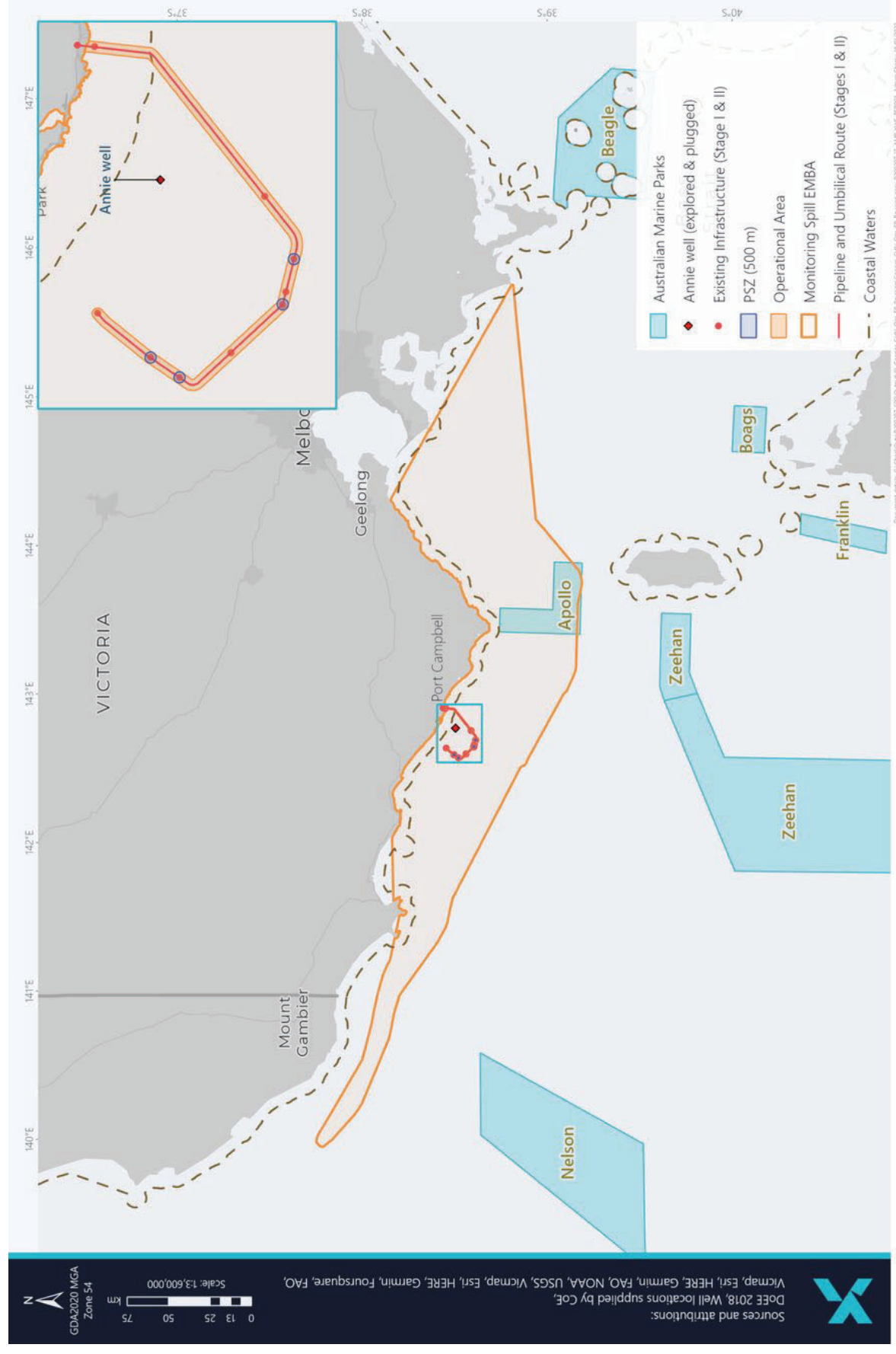


Figure 4-10: Australian Marine Parks within the Operational Area and EMBA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

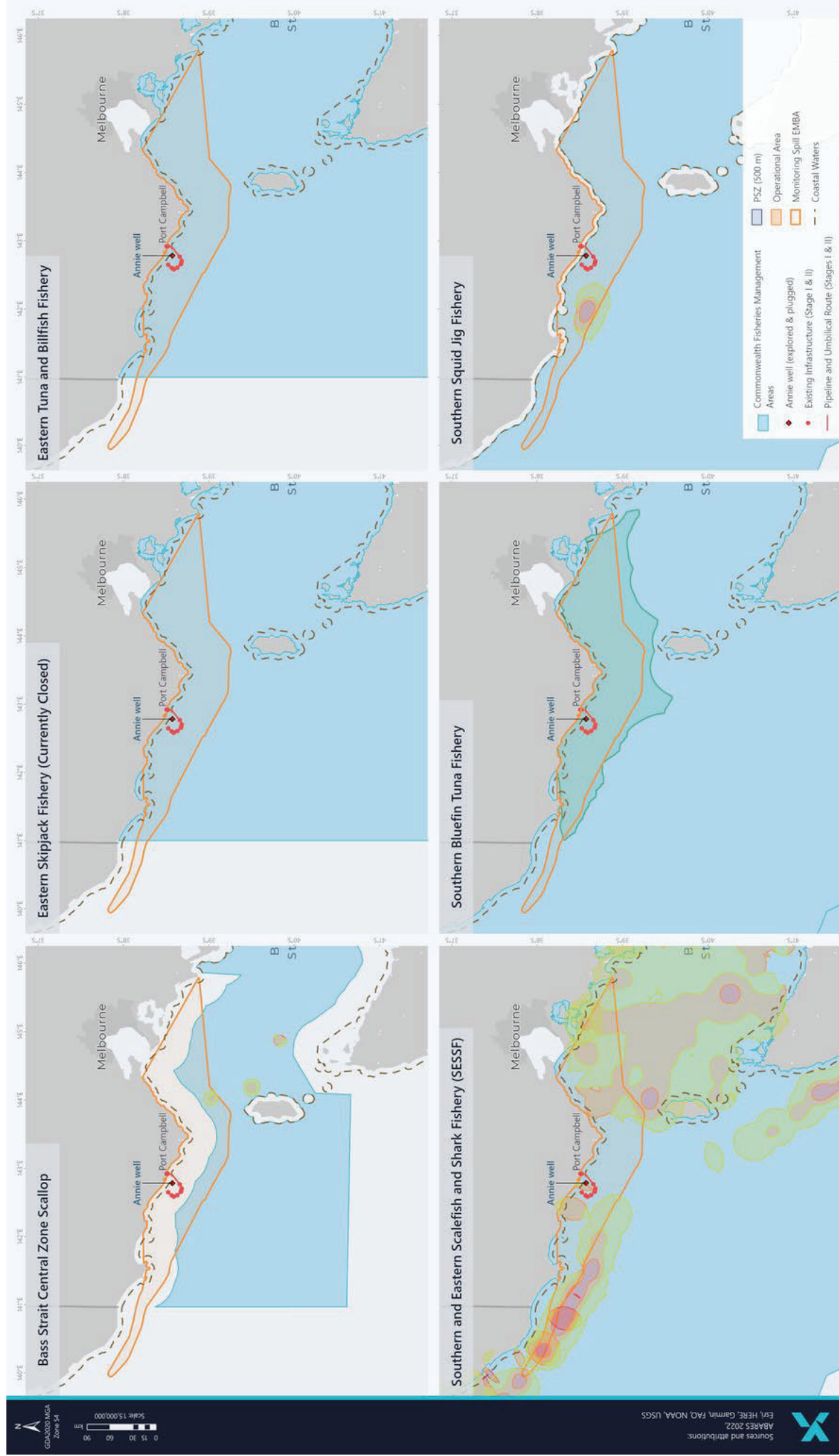


Figure 4-11: Management Areas of Commonwealth Fisheries within the Operational Area and EMBA

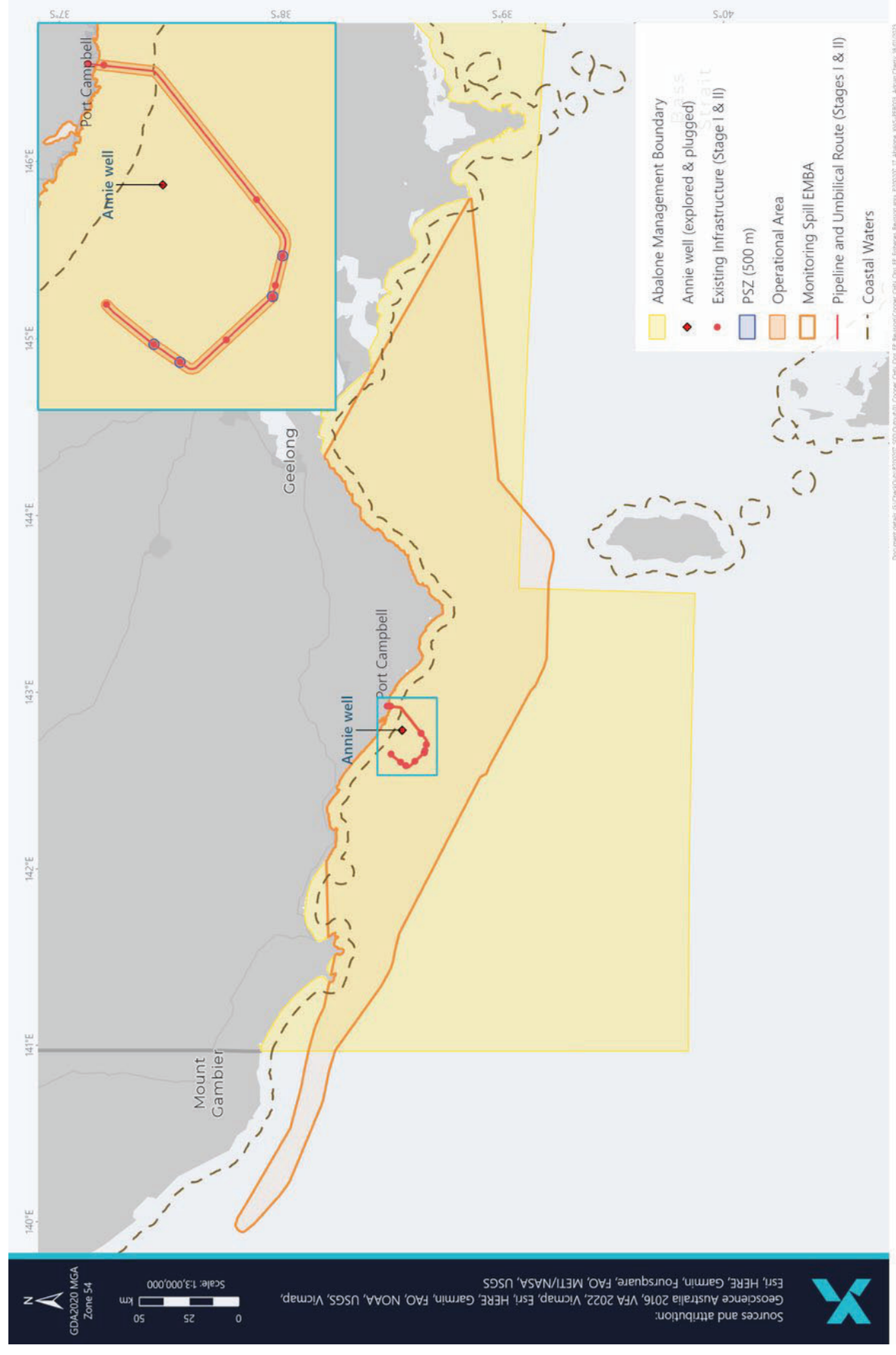


Figure 4-12: Abalone Victorian State-managed Commercial Fishery Management Area within the Operational Area and EMBA

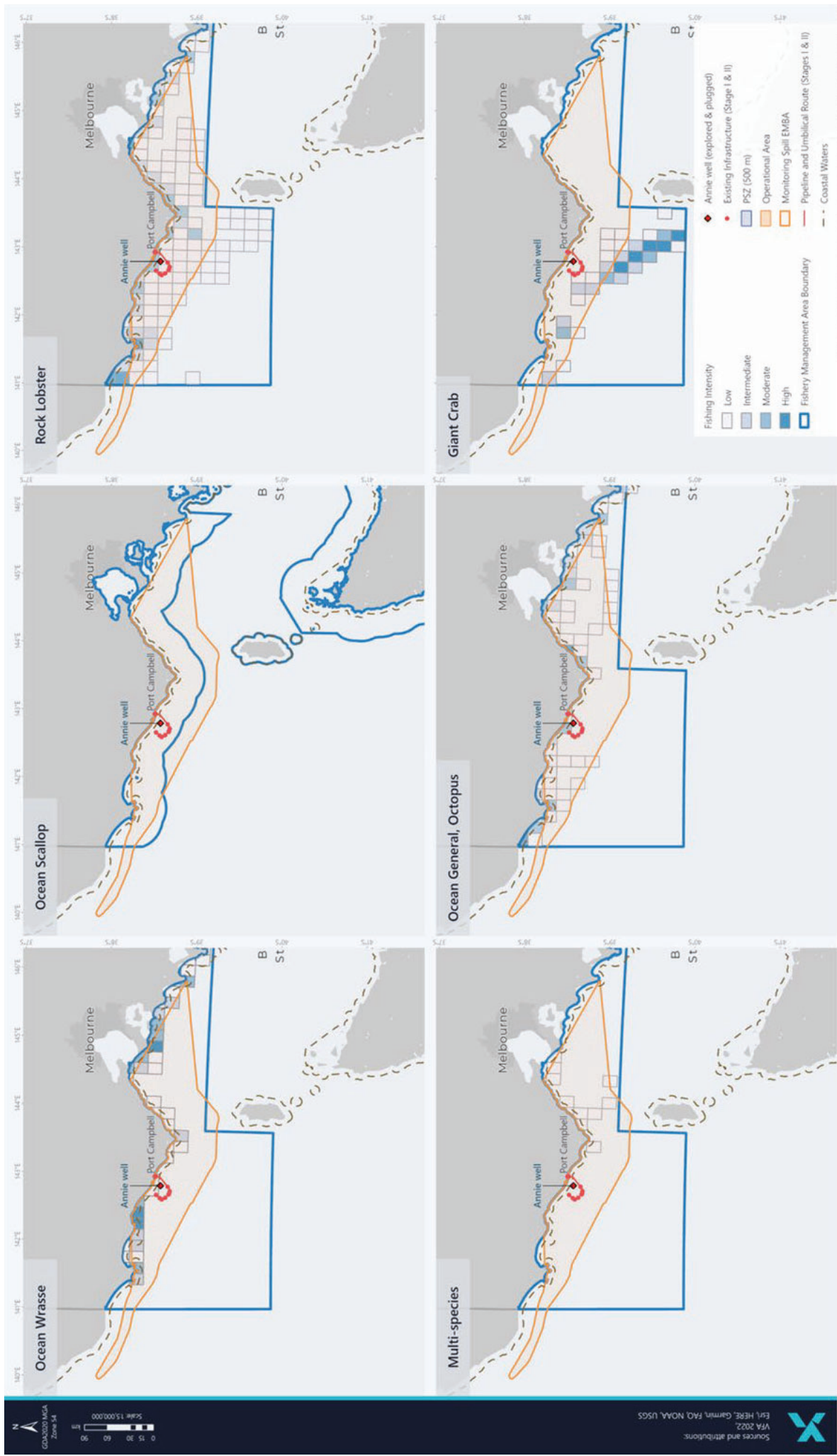


Figure 4-13: Victorian State-managed Commercial Fishery Management Areas within the Operational Area and EMBA

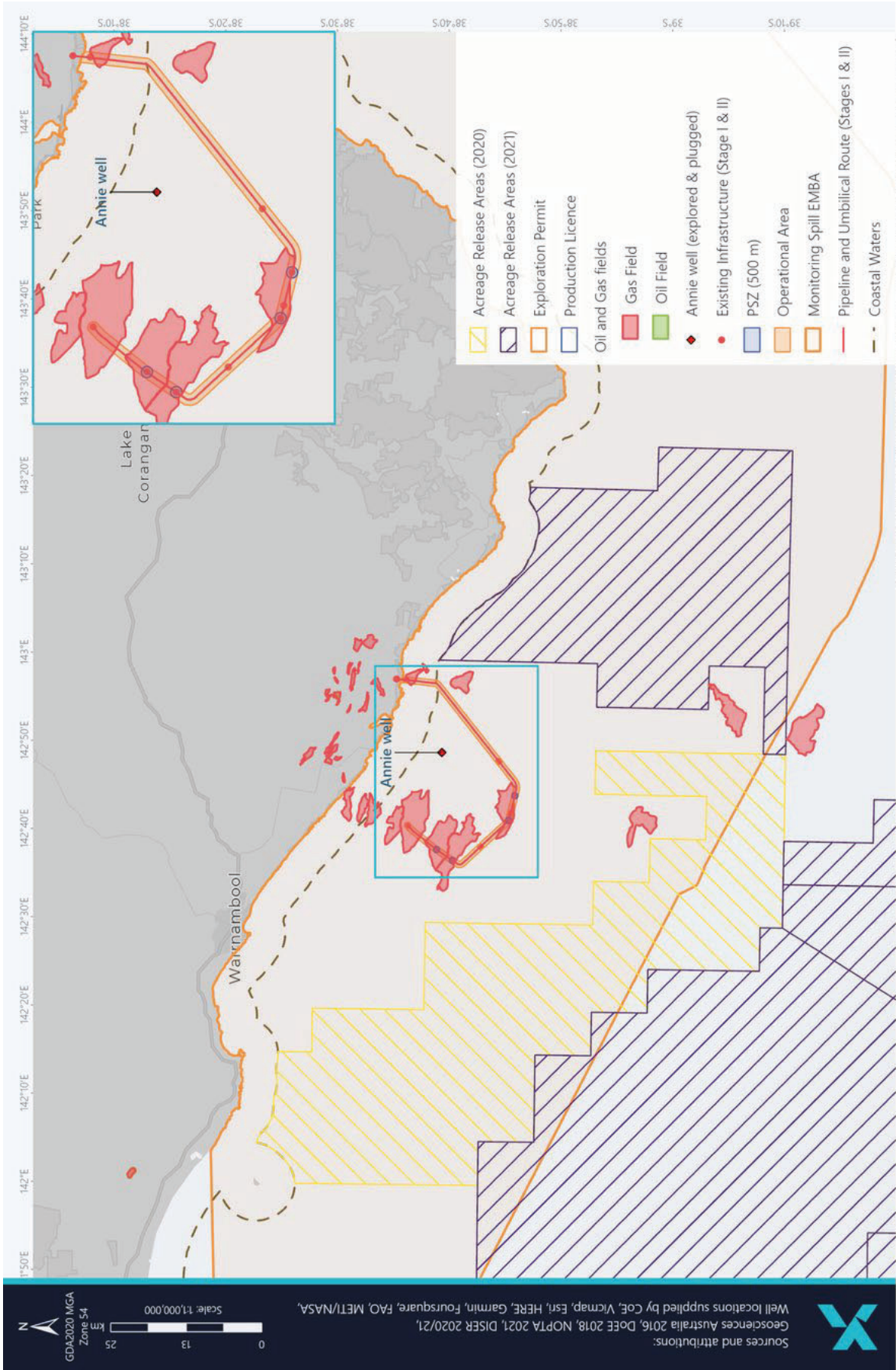


Figure 4-14: Energy Development Areas within the Operational Area

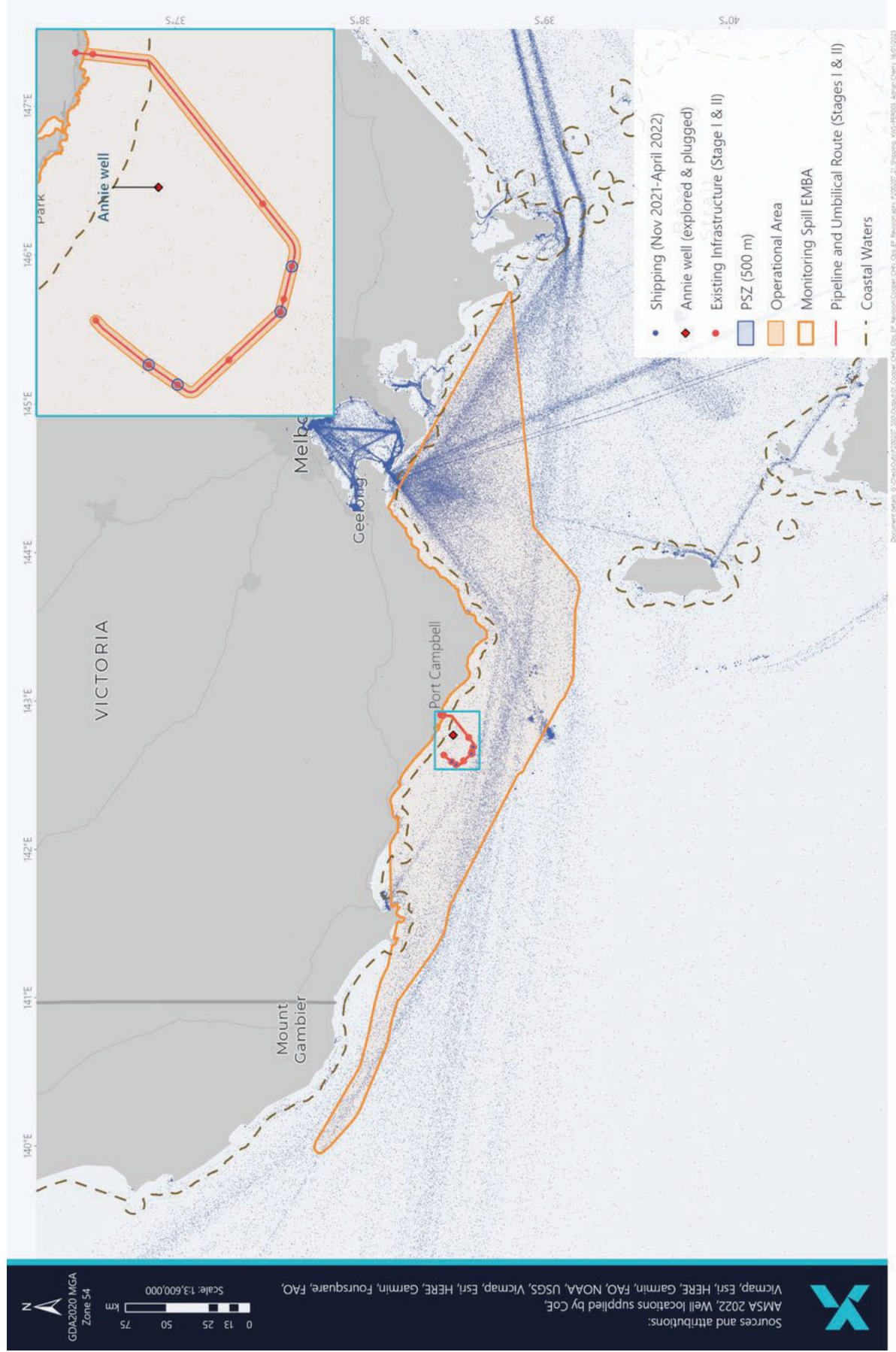


Figure 4-16: AMSA Ship Locations and Shipping Routes within the EMBA

4.4.4 Cultural Receptors

The cultural features of the environment may include heritage sites, and values relating to First Nations people's traditional culture and customs (NOPSEMA 2024). Values and sensitivities associated with cultural features of the environment have been identified based on the presence of heritage sites and First Nations people's values of Country in the EMBA by the activity, including the EMBA by unplanned events. Guidance from the documents in Table 4-5 were used to identify tangible and intangible cultural features of the environment relating to First Nations people's heritage sites, values and sensitivities, as was consultation with First Nations peoples, participation in cultural experiences and training led by Gunditjmara on Gunditjmara Country.

Table 4-5: Guidance documents used to identify cultural features of the environment relating to First Nations people's heritage sites and values

Guidance Document	Document Type	Relevance to the Otway Offshore Operations
Gunditjmara Nyamat Mirring Plan 2023 – 2033 (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023)	Gunditjmara Sea Country Plan	The Gunditjmara Sea Country Plan outlines concerns, and the changes needed to be made for Gunditjmara to fulfil responsibilities to Country. The Plan includes a framework that describes goals and priority actions to achieve those goals that were used to help define First Nations people's heritage sites and values, impacts, and demonstrate acceptability in this EP.
Eastern Maar Meerreengeeye Ngakeppoorryeeyt (Eastern Maar Aboriginal Corporation, 2014)	Eastern Maar Country Plan	The Eastern Maar Country Plan includes details on cultural knowledge, values and perspectives, and ideas and priorities. The Plan defines the Eastern Maar vision for the future with identified goals and objectives that were used to help define First Nations people's heritage sites and values, impacts, and demonstrate acceptability in this EP.
Paleert Tjaara Dja Let's make Country good together 2020 – 2030 – Wadawurrung Country Plan (Wadawurrung Traditional Owners Aboriginal Corporation, 2020)	Wadawurrung Country Plan	The Wadawurrung Country Plan consolidates information gathering from many Wadawurrung people including stories about Country. The Plan articulates how Wadawurrung Sea Country is cared for and managed over the next 10 years including listing values and threats to Wadawurrung values that were used to help define First Nations people's heritage sites and values, and impacts in this EP.
Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) Code of Ethics for Aboriginal and Torres Strait Islander Research (AIATSIS, 2020)	Methodology guide	This AIATSIS code applies to all First Nations people research including planning, collection, analysis and dissemination of information or knowledge which is about or may affect First Nations people collectively or individually. This EP will contain research that concerns First Nations people in the following ways: • Research about First Nations people societies, culture and/or knowledge, and policies • Impact assessment targeted on populations of First Nations people • Through consultation, First Nations people have contributed to research • New or pre-existing data relating to First Nations people is used in the description of environment and impact assessment • Impact assessment concerns First Nations peoples' lands or waters.

Australian Government Style Manual (CoA, 2023)	Terminology and style guide	The Australian Government Style Manual was used to help define culturally appropriate and respectful language when writing about First Nations people. To assist in writing about potential impacts to diverse First Nations people groups, the Style Manual was used to help define respectful naming protocols, including defining the identified relevant First Nations people's heritage sites and values. For example, the term 'Dreaming' is complex and within some First Nations people groups have varied meanings, as a result, this EP refers to 'Dreaming sites' and 'connection to Country' to define dreaming stories, ceremony, song and dance and receptors which connect to traditional activities which may be connected to the term 'Dreaming'.
The Burra Charter	Terminology guide	The Burra Charter outlines the steps in planning for and managing a place of cultural significance. The Burra Charter also defines objects and places of cultural significance relevant to First Nations people's heritage sites and values.

Published Country Plans from RAPs within the EMBA describe the intrinsic link between environmental receptors (physical and biological things), and cultural features of the environment (First Nations people's heritage sites, values and sensitivities) (refer Table 5-5 in Appendix 3).

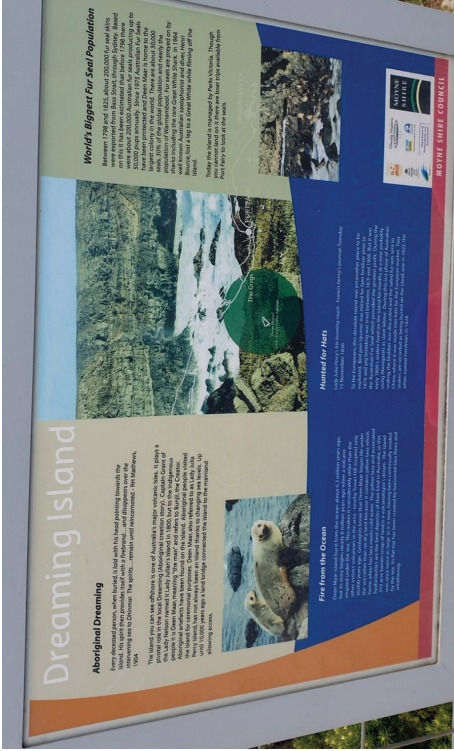
Table 4-6 lists the identified cultural features of the environment within the operational area and the EMBA. The cultural ties and intrinsic link between environment receptor and the identified cultural features (First Nations people's heritage sites, values and sensitivities) is also described, and is informed by sources mentioned above.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 4-6: Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values proximal to Cooper Energy Offshore Title Areas

First Nations Group	Representing	Identified Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values	Description of the Cultural Features in the EMBA	Sources	Potential for overlap of Operational Area	Potential for overlap of Monitoring EMBA
Tangible Cultural Heritage (e.g. places, objects)						
Gunditj Mirring	Gunditjmara	Coastal/ island places and objects	Victoria-wide A search of the Victorian Aboriginal Heritage Register undertaken by Biosis identified 5,636 recorded Aboriginal places across the entire Victorian coastline (Biosis, 2023), including within the EMBA. The dominant Aboriginal places located in the study area are shell middens (46.82%), artefact scatters (39.21%) and low-density artefact distribution (LDADs) (5.70%). Shell middens, artefact scatters and LDADs are considered cultural heritage objects for the purposes of this EP. Review of relevant Country Plans found two (2) coastal/island places within Victoria that are considered significant locations, and which are overlapped by the activity EMBA (unplanned events). No places overlap the operational area:	1, 2, 3, 4, 6, 7, 9	-	✓
Wadawurrung	Wadawurrung					
Eastern Maar	Eastern Maar Peoples					
Bunurong	Bunurong		Deen Maar Deen Maar includes Deen Maar IPA on mainland Victoria, near the town of Yambuk, and Deen Maar Island (Julia Percy Island), approximately 10km off the coast of Yambuk. Deen Maar is Central to the creation of Country and has been important in burial rituals for First Nations Peoples (see below 'sacred sites' which Discusses the Intangible values of Deen Maar). Deen Maar Island was formed by volcanic eruptions millions of years ago. The island comprises a grassy plateau above steep rocky shores that are exposed to the ocean. Access to Deen Maar Island requires a permit. A rabbit eradication program is currently planned for the island in a collaboration between Parks Victoria, EMAC and GMTOAC (ABC, 2023; Victoria State government, 2023). There is a large fur seal colony which inhabits the rocky shore, which are identified as a culturally significant species, and little penguins, that access the island via the exposed rocky shore.			

First Nations Group	Representing	Identified Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values	Description of the Cultural Features in the EMBA	Sources	Potential for overlap of Operational Area	Potential for overlap of Monitoring EMBA
			The land above the shore around Yambuk on the mainland includes natural surface (rain-water collecting) wells used by First Nations Peoples, property run by first nations peoples, and wind turbines which have been developed around existing cultural features (AMCI (2010)). 			
			<i>Image showing Rocky shore of Deen Maar Island and text describing the significance of Deen Maar Island to First Nations Peoples (Public Information Notice provided by Moyne Shire Council).</i> Tyendarrarra lava flow. Within the GEMTOAC` Sea Country Plan, and during consultation, GEMTOAC shared stories of the creation of the Tyendarrarra lava flow which is associated with the World Heritage listed Budge Bim aquaculture system (GEMTOAC, 2023). This lava flow begins at Mt Eccles and extends across coastal plains and offshore 5-10km to the east of Portland at Julia Reef (Builth, 2004). Recent lava flows like Tyendarrarra (circa 30,000 y) are linked to stories of creation, and these landforms have been engineered by Gunditjmarra for thousands of years into aquaculture systems, enabling the collection, fattening up, harvest			

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

First Nations Group	Representing	Identified Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values	Description of the Cultural Features in the EMBA	Sources	Potential for overlap of Operational Area	Potential for overlap of Monitoring EMBA
			and trade of Kooyong (short-finned eel), a culturally significant species (described further below).			
Gunditj Mirring	Gunditjmarra	Submerged sites	Review of relevant Country Plans identified potential submerged sites significant to First Nations peoples submerged landscapes; lava flows have been identified as of particular importance. Sea Country is considered to extend beyond the formally defined RAP area to include sea and submerged lands to the edge of the continental shelf which may include submerged landscapes, and extensions to landscape features such as the Tyrendarra lava flow which extends offshore; these young (circa 30,000) lava flows are connected to stories of creation. The potential for lava flows within Cooper Energy's operated offshore Otway acreage was investigated by evaluating high-quality 3D seismic imagery (Cooper Energy internal review, May 2024). The review found no geological evidence of volcanic or hydrothermal flow events within the sedimentary record of the past 500,000 years within Cooper Energy's operated offshore Otway acreage. As a result, the presence of young lava flows within the operational area is not expected.	1, 3, 4, 5, 9	Possible	✓
Wadawurrung	Wadawurrung					
Eastern Maar	Eastern Maar Peoples					
Bunurong	Bunurong					
Intangible Cultural Heritage (e.g. meanings, associations, connections)						
Gunditj Mirring	Gunditjmarra	Sea Country	RAPs have defined area boundaries which extend to coastal waters. However, Sea Country is considered to extend beyond the formally defined RAP area to include sea and submerged lands to the edge of the continental shelf (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023; Eastern Maar Aboriginal Corporation, 2014). Sea Country is an intrinsic value to First Nations people. It includes parts of open ocean, beaches, land and freshwater on the coast, habitats and encompasses all living things, beliefs, values, creation spirits and cultural obligations connected to an area.	1, 2, 3, 4, 5, 6, 7	Possible	✓
Eastern Maar	Eastern Maar Peoples					
Wadawurrung	Wadawurrung					
Bunurong	Bunurong					
Gunditj Mirring	Gunditjmarra				Possible	✓

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

First Nations Group	Representing	Identified Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values	Description of the Cultural Features in the EMBA	Sources	Potential for overlap of Operational Area	Potential for overlap of Monitoring EMBA
Eastern Maar	Eastern Maar Peoples	Creation/ Dreaming sites, songlines, sacred sites and Ancestral beings	Stories and songlines link First Nations people to ancestors, culture, and Country. Dreaming stories further reinforce the memories and songlines relating significant connection to Sea Country. For Gunditjmara, sites important for Dreaming include Deen Maar. Deen Maar Island is believed to be the place where Punjil the creator, left this world (Framlington Aboriginal Trust and Winda Mara Aboriginal Corporation (2004), AMCI (2010). Clark (2007) describes the story of a cave on the mainland, opposite Dean Maar Island, and of a passage between the two. The Cave and Deen Maar are both spiritually and visually connected. Grass found at the mouth of the cave provided proof that a good spirit had transferred the body of a recently buried person through the cave to Deen Maar Island and conveyed their spirit to the clouds. See Coastal / Island / Places for a physical description of Deen Maar Island.	1, 2, 3, 5, 6, 7		
Wadawurrung	Wadawurrung					
Bunurong	Bunurong					
Gunditj Mirring	Gunditjmara	- Connection to Country - Cultural obligations to care for Country - Knowledge Systems	- First Nations people maintain strong spiritual ties to Country. - Spiritual connection to Country includes how Country provides spiritual life-giving resources for species and landscapes, places where the spirits of Ancestors rest (Deen Maar) or where spirits reside including water bodies; where peace, direction and purpose originates. Limitations on First Nations peoples accessing or enjoying areas of Sea Country may damage Traditional Owners connection to Country. - First Nations People are culturally obligated and inherently responsible to care, protect and heal Country for present and future generations. The roles held relating to taking care of Country and knowledge holding vary amongst individuals and within clans and family groups. Roles include taking care of culturally significant species or habitats of significant species known to be important food resources, and culturally significant landscapes and places. - First Nations peoples ecological, spiritual, traditional and cultural knowledge is passed through the generations using cultural practices (dreaming stories, ceremony, song and dance) where knowledge holders (Elders) are the custodians of knowledge. This knowledge includes culturally significant species, and landscape	1, 2, 3, 4, 5, 6, 7, 8, 9	✓	✓
Wadawurrung	Wadawurrung					
Eastern Maar	Eastern Maar Peoples					
Bunurong	Bunurong					
Wadawurrung	Wadawurrung					
Eastern Maar	Eastern Maar Peoples					
Bunurong	Bunurong					

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

First Nations Group	Representing	Identified Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values	Description of the Cultural Features in the EMBA	Sources	Potential for overlap of Operational Area	Potential for overlap of Monitoring EMBA
Habitats and species						
Gunditj Mirring	Gunditjmarra	Culturally significant species/ food resources: Fish, sharks, rays, eels, shellfish and crustaceans - collection from coastal and riverine environments.	Fish, sharks, rays, eels, crayfish, yabbies, mussels and oysters are a valued source of food and hold significance for First Nations people. GMOATC have highlighted short-finned eels (Kooyang) as of particular significance to Gunditjmarra people, who developed complex aquaculture systems to trap and store eels. The aquaculture systems were engineered from the volcanic formations associated with the Tyrendarra Lava flow to create Budj Bim. The eels which are a valued source of food, were captured, fattened up, harvested, smoked and traded, and continue to hold cultural significance for Gunditjmarra. Today there are cultural tours at Budj Bim, run by Gunditjmarra peoples. The short-finned eel species migrates through State waters and Commonwealth Marine Area of the Otway Region between freshwater systems in Victoria including within Gunditjmarra Country, to / from spawning grounds in the Coral Sea, thousands of km to the north. Based on the observed migratory route of short-finned eels, short-finned eels in adult and glass eel forms may pass the operational area during seasonal migrations. During late summer and autumn adult eels will enter the Otway Basin and Bass Strait to commence their migration to the Coral Sea. During mid-winter to late spring, the short-finned eel in larvae and glass eel forms will enter Victorian estuaries to complete the upstream migration. Upon entering the marine environment, eels disperse widely; individuals migratory paths are known to diverge widely, and timing of arrival in the Coral Sea is also variable.	1, 2, 3, 6, 7, 8	✓	✓
Wadawurrung	Wadawurrung					
Eastern Maar	Eastern Maar Peoples					
Bunurong	Bunurong					
Gunditj Mirring	Gunditjmarra	Culturally significant species: Cetaceans	First Nations people around Australia have long had a strong connection to whales, which has significance as totemic ancestors to some groups. Kamtubul (whales) in Sea Country hold deep cultural significance to the Gunditjmarra and feature in Dreaming stories, ceremony, song and dance traditions.	1, 2, 6	✓	✓
Wadawurrung	Wadawurrung					
Eastern Maar	Eastern Maar Peoples					

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

First Nations Group	Representing	Identified Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values	Description of the Cultural Features in the EMBA	Sources	Potential for overlap of Operational Area	Potential for overlap of Monitoring EMBA
Gunditj Mirring Wadawurrung	Gunditjmarra	Culturally significant species: Pinnipeds	Whale migration occurs through the operational area and EMBA. Whale migration is associated with the belief that whales are ancestors of some First Nations peoples and arrive to the coast, annually. Key whale species which may relate to a practice of 'calling in' the whales back to the coast are the southern right whale, which reproduce close to shore, and are often observable from shore, though other whales can also be observed from shore, including humpback whales. Whale beaching events are also of significance to First Nations people, as parts of deceased whales were, and can still be used as a resource. Multiple whale species have the potential to beach in the region, including, though not limited to the southern right whale, pygmy blue whale, and humpback whale.	1, 2, 6, 8	Possible	✓
	Wadawurrung					
Gunditj Mirring Wadawurrung Eastern Maar Bunurong	Gunditjmarra	Culturally significant species: Seabirds	Different avian species hold deep connections to lore and represent spiritual emblems or totems. Magpie gees and Cape Barren geese were harvested for food from wetland habitats. Wetland habitat loss has reduced numbers of these species and harvesting is not permitted in Victoria. see Appendix 3 for further information on seabirds that may be present in the Operational area and EMBA).	1, 2, 3, 6, 7	✓	✓
	Wadawurrung					
	Eastern Maar Peoples					
	Bunurong					
Gunditj Mirring	Gunditjmarra	Key Ecological Feature: Bonney Upwelling	The Bonney upwelling system is valued by Gunditjmarra for the cold waters and nutrients it brings to the region, which supports plankton growth, providing a food source for culturally significant species (GMTOAC, 2023). The Bonney upwelling is a large scale oceanographic system and key ecological feature that influences the Otway coast (Appendix 3); the	1	-	✓

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

First Nations Group	Representing	Identified Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values	Description of the Cultural Features in the EMBA	Sources	Potential for overlap of Operational Area	Potential for overlap of Monitoring EMBA
			feature is active in Autumn and Summer depending on the strength and frequency of alongshore winds (Bulter et al., 2002). The area is significant as one of the largest and most predictable upwellings in south-eastern Australia, and most prominent upwelling system driven by prevailing south-easterly winds (Appendix 3).			
Gunditj Mirring	Gunditjmarra	Water quality	Water including marine and freshwater systems, is of particular cultural significance to First Nations people as an integral part of songs, ceremonies, hunting and collecting, and other activities that bind people to their Country and each other. First Nations communities in Victoria maintain strong connections to water and culture. Increased pollution from coastal communities, agriculture and industry, may affect water quality, impact marine species and therefore harms Country.	1, 2, 3	✓	✓
Wadawurrung	Wadawurrung					
Eastern Maar	Eastern Maar Peoples					
Bunurong	Bunurong					
Gunditj Mirring	Gunditjmarra	Nearshore benthic habitats	Nearshore reefs provide habitat for many culturally significant species such as macroalgal communities, fish, sharks and rays. Julia Reef is within sea country adjacent to Gunditj Mirring RAP and is an extension of the volcanic feature connected to Budj Bim. Julia Reef marks the seaward extent of the Tyrendarra lava flow, ending approximately 15 km offshore and 10-15km east of Portland (Bulth, 2004). Julia Reef is a preferred fishing spot for recreational fishers (VFA, 2022).	1, 2	-	✓
Gunditj Mirring	Gunditjmarra	Intertidal communities and shorelines	Intertidal communities and shorelines include mangroves, macroalgae, seagrass, coastal saltmarsh, rocky and sandy shorelines.	1, 2, 3	-	✓
Wadawurrung	Wadawurrung		Intertidal reefs and sandy shorelines are important cultural heritage sites and are important habitats for marine fauna and culturally significant species such as seabirds and migratory shorebirds, fish, sharks, rays, eels, and pinnipeds.			
Eastern Maar	Eastern Maar Peoples		Sea Country for Wadawurrung people includes coastal habitats such as seagrass and saltmarsh.			
Bunurong	Bunurong					
Gunditj Mirring	Gunditjmarra	Marine Park/ coastal reserves / wetlands	The First Nations people residing within the EMBA have strong cultural associations with Sea Country and have cultural responsibilities for the	1, 2, 3, 6	-	✓
Wadawurrung	Wadawurrung					

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



First Nations Group	Representing	Identified Cultural Features of the Environment relating to First Nations People's Heritage Sites and Values	Description of the Cultural Features in the EMBA	Sources	Potential for overlap of Operational Area	Potential for overlap of Monitoring EMBA
Eastern Maar	Eastern Maar Peoples		waters and Marine Parks and Reserves that are located within Country. Some First Nations groups have joint management over the Marine Parks and reserves within Country.			
Bunurong	Bunurong		Marengo Reef Marine Park holds cultural significance for the Eastern Maar people. The marine park includes rocky features with high structural diversity, and provides for numerous filter-feeding organisms, such as tube worms and barnacles, and are surrounded by bull kelp. Islands within the park are known as a haul out site for fur seals.			
Sources: 1. Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023 2. Wadawurrung Traditional Owners Aboriginal Corporation, 2020 3. Eastern Maar Aboriginal Corporation, 2014 4. Biosis 2023; 5. Bunurong Land Council Aboriginal Corporation, 2024 6. The University of Adelaide, 2023 7. Parks Victoria, 2019 8. DoE, 2015b 9. Victorian Aboriginal Heritage Council, 2021						

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 4-7: Seasonality of Key Sensitivities within the Otway Basin

Environmental Sensitivity	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Marine Mammals												
Antarctic Minke Whale								Likely to occur in the austral summer				
Australian Sea Lion								Assumed present year-round – SEMR is a known range				
Pygmy Blue Whale		Foraging occurs during Bonney Upwelling – BIA										
Bryde's Whale								Prefers water depths ranging from 200 m – 1000 m				
Dusky Dolphin								Assumed present year-round – prefers inshore habitats but may also be pelagic at times				
Fin Whale		Present during the Bonney Upwelling event										
Humpback Whale				Nth Migration through SEMR							Sth Migration through SEMR	
Killer Whale				Assumed present year-round – frequent sightings off Vic along the continental slope and shelf								
Pygmy Right Whale				Uncommon / few or no records available for Vic.								
Sei Whale	Sighted during the Bonney Upwelling event											
Southern Right Whale – migration												
Southern Right Whale – reproduction												
Sperm Whale								Prefer deep offshore environments >600 m				
Marine Reptiles												
Green turtle								Occurs in limited numbers in Vic and SA				

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Environmental Sensitivity	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Leatherback Turtle	Foraging in the SEMR is known to occur											
Loggerhead Turtle	Uncommon in southern Australia											
Fish, Sharks and Rays												
Australian Grayling		Spawning from late Summer to Winter (freshwater)				Assumed present year-round – typically occurs in freshwater but can occur in coastal seas						
Eastern Dwarf Galaxias	Occurs in freshwater habitats											
Porbeagle	Assumed present year-round											
Shortfin Mako Shark	Assumed present year-round											
White Shark	Assumed present year-round with distribution and foraging BIAs identified throughout the region											
Yarra Pygmy Perch	Occurs in freshwater habitats											
Blue Warehou	Assumed present year-round											
Eastern School Shark	Assumed present year-round											
Orange Roughy	Assumed present year-round											
Southern Bluefin Tuna	Assumed present year-round											
Southern Dogfish	Assumed present year-round											
Birds												
Antipodean Albatross	Foraging known to occur all year											
Australasian Gannet								Present year-round – foraging and aggregation BIAs		Breeding occurs Oct – May		
Black-browed Albatross				Fledglings (Apr – May)		Present – foraging BIA			Breeding within SEMR on Macquarie Is.			
Black-faced Cormorant	Assumed present year-round (endemic to southern Australia)											
Buller's Albatross	Foraging BIA – however, records indicate the species is mainly present around Tas when in the SEMR (species endemic to NZ)											

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Environmental Sensitivity	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Campbell Albatross					Present in the non-breeding season – foraging BIA			Breeds on Campbell Island, south of NZ Aug - May				
Common Diving Petrel				Present year-round – foraging BIA				Breeding occurs Jul-Jan – breeding BIA				
Indian Yellow-nosed Albatross				Fledgling Mar-Apr			Non-breeding visitor – foraging BIA	Breeding occurs in South Africa – eggs laid in Sep-Oct				
Little Penguin					Present year-round – foraging BIA			Breeding Sept – Feb				
Short-tailed Shearwater				Present Sep-May – foraging BIA			Migrates north for Winter	Breeding Oct – May				
Shy Albatross				Assumed present year-round – foraging BIA				Breeding occurs in SEMR with eggs laid in Sept and fledglings in Apr				
Wandering Albatross				Assumed present year-round – foraging BIA				Breeding occurs biennially on Macquarie Island with eggs laid in Dec and fledglings between mid-Nov and late-Feb				
Wedge-tailed Shearwater				Present Aug-May – foraging and breeding BIA								
White-faced Storm Petrel				Fledglings mid-Feb – mid-Mar Foraging BIA during breeding season			Migrates to tropical and subtropical locations in non-breeding season	Species arrive at breeding colonies late-Sept – early-Oct with egg laying occurring in early Summer. Foraging BIA during breeding season				
Birds – other seabirds (With no BIAs identified)							Various species – assumed present					
Birds – shorebirds							Various species – assumed present					
Legend												
	Peak occurrence / activity (reliable and predictable)											
	Low level of occurrence/ activity (may vary from year to year), or otherwise as described above											
	No occurrence											

Source: DoE, 2015; DAWE, 2022; NCVA, 2020

5 Impact and Risk Assessment

The regulations require an EP be prepared which details the environmental impacts and risks associated with the activity; and that the EP comprises an evaluation of all the impacts and risks, appropriate to the nature and scale of each impact or risk.

This EP provides the environmental impact and risk evaluation for the Otway offshore activities, by adopting the Cooper Energy Risk Management Protocol (CMS-RM-PRO-0001). This Protocol is consistent with the approach outlined in ISO 14001 (Environmental Management Systems), ISO 31000:2009 (Risk Management) and HB 203:2012 (Environmental Risk Management – Principles and Process).

Figure 5-1 provides the six-step process adopted for the evaluation of impacts and risks associated with the activity, this process is integrated into the Cooper Energy risk assessment methodology.



Figure 5-1: CEMS Risk Management Protocol

Further details of the environmental impact and risk assessment methodology are provided in the following sections, including criteria for assessment and risk ratings.

A Risk Register is 'the managed repository of key risk information maintained by each Business Area'. It is a living part of risk management that is continually reviewed and updated. In accordance with the Cooper Energy Management System (CEMS) Risk Management Protocol, each Business Area must maintain a Risk Register and conduct risk management as an integral activity within all business processes to help manage uncertainty in achieving objectives and to aid in decision making. Section 6 expands on the project risk register, showing all identified risks, impacts, preventative and mitigative controls.

5.1 Definitions

In this section, Cooper Energy has provided a list of terminology and definitions that will be meet the requirements of Regulation 21(5) of the OPGGS(E)R:

- **Activity:** An activity refers to a component or task within a project which results in one or more environmental aspects.
- **Aspect:** An environmental aspect is an element or characteristic of an activity, product, or service that interacts or can interact with the environment. Environmental aspects can cause environmental impacts or may create a risk to one or more environmental receptors.
- **Consequence:** The consequence of an impact (or risk event) is the outcome of the event on affected receptors. Consequence can be positive or negative.
- **Impact:** An environmental impact is a change to one or more environmental receptors that is caused either partly or entirely by one or more environmental aspects. An impact is something which is certain

to occur. An environmental aspect can have either a direct impact on the environment or contribute only partially or indirectly to a larger environmental change. An environmental aspect may result in a change which puts one or more receptors at risk of being impacted. The relationship between environmental aspects and environmental impacts is one of cause and effect. The term 'impact' is associated with planned activities and known outcomes.

- **Likelihood:** The likelihood (or probability) of the consequence occurring. Likelihood only applies to risk and risk events.
- **Residual risk:** Residual risk is the risk remaining after additional control measures have been applied (i.e., after impact or risk treatment).
- **Risk:** An environmental risk (or risk event) is a change which could occur to one or more environmental receptors, caused either partly or entirely by one or more environmental aspects. A risk event has a degree of likelihood, it is not certain to occur. The term 'risk' is associated with planned and unplanned activities where the change elicited on or by a particular receptor is uncertain.
- **Risk severity:** The risk severity level is determined from the point on the risk matrix where the consequence intersects the likelihood.

5.2 Risk Management Process Steps

This section provides a detailed overview of the risk management process steps.

5.2.1 Establish the context

All components of the petroleum activity relevant to this scope were identified and described in Section 3 of this EP.

After understanding the petroleum activity, an assessment is carried out to identify aspects. The stakeholder consultation outcomes, undertaken over several years, also contribute to aspect identification. The environmental aspects identified for this petroleum activity are detailed in Section 3 and Table 6-1.

5.2.2 Risk identification

Risk identification involved the documentation of risks as they relate to the context established in step 1 (Section 5.2.1). An environmental risk assessment or review is to identify environmental impacts and risks associated with the petroleum activity. The assessment is attended by project personnel spanning operations, well engineering, subsea, HSEC disciplines and may be supported by other specialists.

Cumulative impacts associated with the activity and adjacent activities are also considered. NOPSEMA provide definition of Cumulative Impact within the Environment Plan Decision making Guideline (NOPSEMA, 2022) as:

"In the context of offshore petroleum activities, cumulative environmental impacts are successive, additive or synergistic impacts of collectively significant activities or projects with material impacts on the environment that have the potential to accumulate over temporal and spatial scales"

As described in Section 4.4.3, other oil and gas titleholders are currently operating within Commonwealth waters in the Otway Basin, with additional titleholders also proposing upcoming activities. These activities have been identified and assessed in alignment with the NOPSEMA definition above. The NOPSEMA Environment Plan website was used to identify reasonably foreseeable future projects and activities through approved and under assessment published EPs. Each published EP provided an environmental baseline within the Description of the Environment reflecting the effects of previous and current activities and outlines any threats. The CHN facility and associated activities form part of the current baseline given their ongoing presence for a number of years

5.2.3 Risk analysis

All impacts and risks identified during the assessment are analysed. Impact and risk analysis requires a level of consequence to be assessed for each impact or risk event. For each risk event, the likelihood of occurrence is determined.

Impacts and risks are evaluated using the Cooper Energy Risk Matrix, which includes:

- A six-level likelihood table to assess the probability of risk occurrence

- A five-level consequences table to assess the risk impact against business objectives
- A matrix of likelihood versus consequence that defines four levels of risk severity and allows a risk to be assessed and plotted
 - The outcome of the plotted risks is termed a 'Heat Map' and provides a graphic representation of the risks, their respective severities and likelihood
- A four-level risk severity table that defines the actions and escalation required for risks at different severity levels.

The Cooper Energy Risk Matrix is provided in Table 5-1 with definitions of the level of consequence.

Table 5-1 Consequence Assessment Criteria

Consequence level	Environmental Consequence Description
1	Minor local impacts or disturbances to flora/fauna, nil to negligible remedial/recovery works on land/ water systems.
2	Localized short-term impacts to species or habitats of recognized conservation value not affecting local ecosystem function; remedial/recovery work to land, or water systems over days/weeks.
3	Localized medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function; remedial/recovery work to land/water systems over months/year.
4	Extensive medium to long-term impact on highly valued ecosystems, species populations or habitats; remedial/recovery work to land/ water systems over 1 – 10 years.
5	Severe long-term impact on highly valued ecosystems, species, or habitats. Significant remedial/recovery work to land/water systems over decades.

The Risk Severity can be:

- **Extreme (red):** inherent risk at this level is not within the Company's risk appetite; the activity does not proceed until the Managing Director approves the treatment plans to bring the residual risk to an acceptable level. The Board must also be informed of the risk and its treatment.
- **High (orange):** inherent risk at this level requires involvement of the respective General Manager who will approve the treatment plans before the activity proceeds; the Board must also be informed of the risk and its treatment.
- **Moderate (yellow):** inherent risk at this level is tolerable if it is also ALARP. General Managers must approve treatment plans and risks should be reported to the Executive Leadership Team during regular reporting.
- **Low (green):** this level of risk is largely acceptable. Review of control procedures should occur, and the risk should be regularly monitored for deterioration.

* Key descriptor words relating to duration, spatial extent and magnitude from these definitions, are used during the ENVID and risk assessment process for consideration of all elements of the environment, including biological, physical and social receptors. These receptors are identified within the existing environment section and integrated into the risk assessment through activity-aspect interaction scoping.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 5-2 Cooper Energy qualitative risk matrix

LIKELIHOOD							CONSEQUENCE				
Qualitative											
Rating	Level	Probability	Time Period	Description	Quantitative						
A	Almost certain	> 80%	More than once a year	Expected to occur in most circumstances and/or more than once a year, or repeatedly during the activity.	>10 ⁻²	Moderate	Moderate	High	Extreme	Extreme	
B	Likely	> 50%	Every 1 – 2 years	Not certain to happen but an additional factor may result in an occurrence. Expected to occur from time to time during the activity.	≤ 10 ⁻²	Low	Moderate	Moderate	High	Extreme	
C	Possible	> 20%	Every 4 – 5 years	Could happen when additional factors are present. Easy to postulate a scenario for the occurrence but considered doubtful. Expected to occur once during the activity.	≤ 10 ⁻³	Low	Moderate	Moderate	High	High	
D	Unlikely	> 5%	Every 5 – 20 years	A rare combination of factors would be required for an occurrence. Conceivable and could occur at some time. Could occur during the activity.	≤ 10 ⁻⁴	Low	Low	Moderate	Moderate	High	
E	Remote	> 1%	Every 20 – 100 years	A freak combination of factors would be required for an occurrence. Not expected to occur during the activity. Occur in exceptional circumstances.	≤ 10 ⁻⁵	Low	Low	Moderate	Moderate	High	
F	Hypothetical	< 1%	Not in 100 years	Generally considered hypothetical or non-credible. Black Swan.	≤ 10 ⁻⁶	Low	Low	Low	Low	Moderate	

5.2.4 Risk Evaluation

5.2.4.1 Identify and Evaluate Controls

Controls are any measures exercised that modify the impact or risk. Controls act on an impact cause to reduce the consequence of the impact. Controls that act on the risk cause to reduce the likelihood of the risk occurring are termed preventative controls. Reactive controls are those that modify the consequence once the risk event has occurred. For each risk, all controls should be captured.

Risk Evaluation requires each control to be assessed for its effectiveness in managing the risk causes and consequences. This may be different from the effectiveness of the control to deliver its original designed purpose.

5.2.4.2 Determine ALARP Status

The ALARP status of each impact and risk is assessed based on the sufficiency of the controls already established and the opportunity for new controls to be implemented. A cross-functional team is assembled to ensure the risks and controls are assessed from different perspectives and to identify the possibility of additional controls that can reduce the risk. If no additional realistic and feasible controls are identified for the risk, then it is considered ALARP.

In alignment with NOPSEMA's ALARP Guidance Note (N-04300-GN0166, June 2020), Cooper Energy have adapted the approach developed by Oil and Gas UK (OGUK) (formerly UKOOA) (OGUK 2014) for use in an environmental context to determine the assessment technique required to demonstrate that potential impacts and risks are ALARP (Figure 5-2).

Specifically, the framework considers impact consequence and several guiding factors:

- Activity type
- Risk and uncertainty
- Stakeholder influence.

A **Type A** decision is made if the risk is relatively well understood, the potential impacts are low, activities are well practised, and there are no conflicts with company values, no partner interests and no significant media interests. However, if good practice is not sufficiently well defined, additional assessment may be required.

A **Type B** decision is made if there is greater uncertainty or complexity around the activity and/or risk, the potential impact is moderate, and there are no conflict with company values, although there may be some partner interest, some persons may object, and it may attract local media attention. In this instance, established good practice is not considered sufficient and further assessment is required to support the decision and ensure the risk is ALARP.

A **Type C** decision typically involves sufficient complexity, high potential impact, uncertainty, or stakeholder influence to require a precautionary approach. In this case, relevant good practice still must be met but additional assessment is required, and the precautionary approach is applied for those controls that only have a marginal cost benefit. In accordance with the regulatory requirement to demonstrate that environmental impacts and risks are ALARP, Cooper Energy has considered the above decision context in determining the level of assessment required. This is applied to each aspect described in Section 6.

The assessment techniques considered include:

- Good practice
- Engineering risk assessment
- Precautionary approach

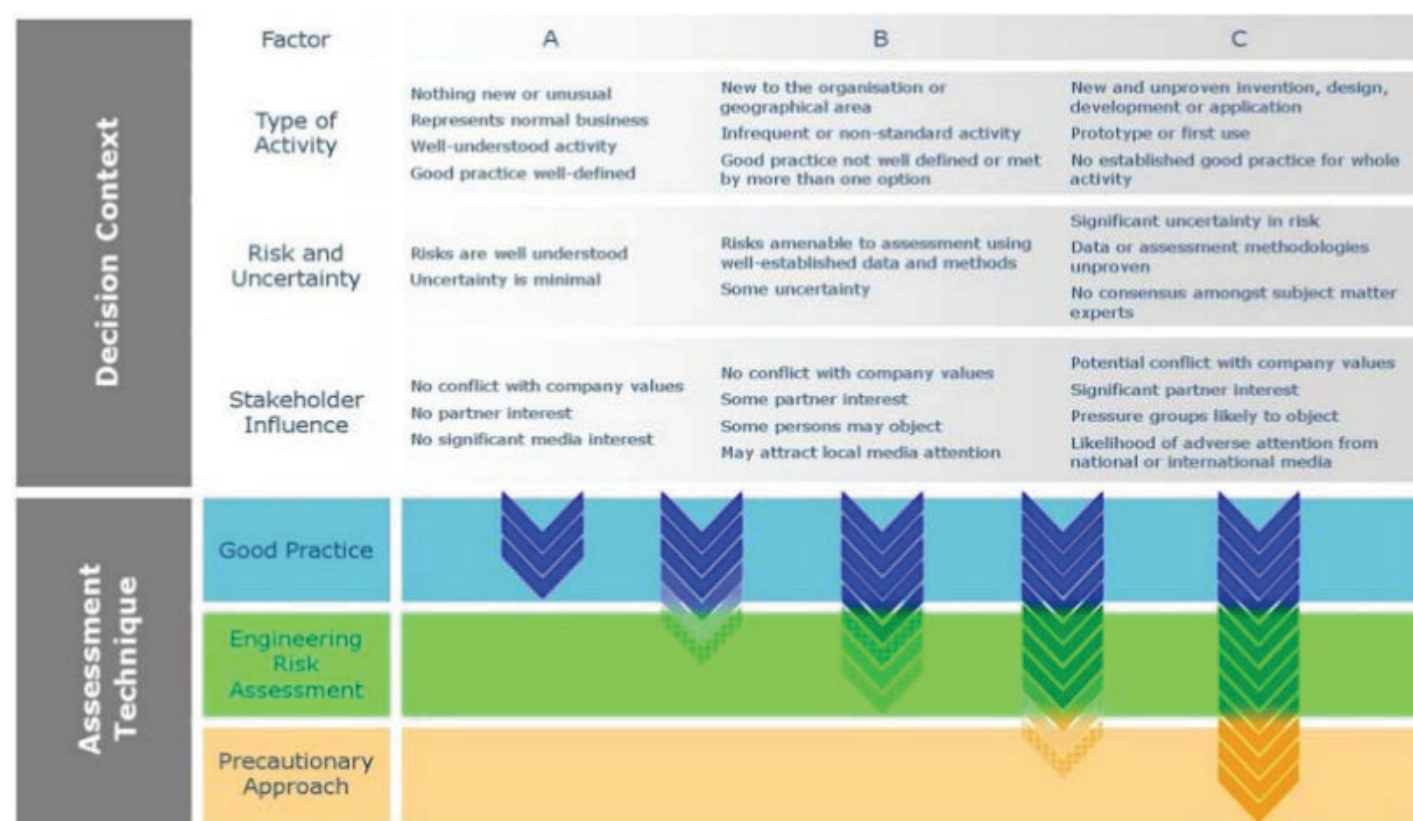


Figure 5-2: Impact and Risk Uncertainty Decision Making Framework

Good Practice

OGUK (2014) defines 'Good Practice' as the recognised risk management practices and measures that are used by competent organisations to manage well-understood hazards arising from their activities.

'Good Practice' can also be used as the generic term for those measures that are recognised as satisfying the law.

For this EP, sources of good practice include:

- Requirements from Australian legislation and regulations
- Relevant Australian policies
- Relevant Australian Government guidance
- Relevant industry standards
- Relevant international conventions
- Changing regulator expectations and/or continuous improvement.

If the ALARP technique determines the controls to be 'Good Practice', further assessment ('Engineering Risk Assessment') is not required to identify additional controls. However, additional controls that provide a suitable environmental benefit for an insignificant cost may be identified.

Engineering Risk Assessment

All potential impacts and risks that require further assessment are subject to an 'Engineering Risk Assessment'.

Based on the various approaches recommended in OGUK (2014), Cooper Energy believes the methodology most suited to this Activity is a comparative assessment of risks, costs, and environmental benefit. A cost-benefit analysis should show the balance between the risk benefit (or environmental benefit) and the cost of implementing the identified measure, with differentiation required such that the benefit of the risk reduction measure can be seen and the reason for the benefit understood.

Precautionary Approach

OGUK (2014) state that if the assessment, considering all available engineering and scientific evidence, is insufficient, inconclusive, or uncertain, then a precautionary approach to hazard management is needed. A precautionary approach will mean that uncertain analysis is replaced by conservative assumptions that will result in control measures being more likely to be implemented. That is, environmental considerations are expected to take precedence over economic considerations, meaning that a control measure that may reduce environmental impact is more likely to be implemented. In this decision context, the decision could have significant economic consequences to an organisation.

5.2.4.3 Evaluate the Acceptability of the Potential Impacts and Risk

Cooper Energy considers a range of factors when evaluating the acceptability of environmental impacts or risks associated with its activities. This evaluation is based on NOPSEMA's Guidance Notes for EP Content Requirement (N04750-GN1344, September 2020) and guidance issued in Guideline – Environment Plan decision making (N-04750-GL1721, June 2021).

The acceptability evaluation for each aspect associated with this activity is undertaken in accordance with Table 5-3.

Table 5-3 Cooper Energy Acceptability Evaluation

Factor	Criteria / Test
Cooper Energy Risk Management Protocol	Is the risk severity Extreme (i.e., not within the Company's risk appetite), or High (i.e., requires involvement from the Managing Director to approve the treatment plan)?
Principles of Ecologically Sustainable Development (ESD)	Is there the potential to affect biological diversity and ecological integrity? (Consequence Level 4 and 5). Do activities have the potential to result in serious or irreversible environmental damage? If yes: is there significant scientific uncertainty associated with aspect? If yes: has the precautionary principle been applied to the aspect?
Legislative and Other Requirements	Are there any good practice control measures which have not been adopted, including those identified in relevant EPBC listed species recovery plans or approved conservation advices? If not adopted, have alternate control measures been adopted that provide equal or better levels of protection?
Internal Context	Is the impact or risk provided for within Cooper Energy Management System (CEMS) Standards and Processes? If no, what additional provisions will be made?
External Context	Are there any objections and claims regarding this aspect which have not been resolved? If yes, is there anything which precludes reaching a resolution?

5.2.4.4 Principles of ESD and Precautionary Principle

The principles of ESD are considered in Table 5-4 in relation to acceptability evaluations.

Under the EPBC Act, the Minister must also take into account the precautionary principle in determining whether or not to approve the taking of an action. The precautionary principle (Section 391(2) of the EPBC Act) is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there may be threats of serious or irreversible environmental damage.

Table 5-4 Principles of Ecologically Sustainable Development (ESD)

ESD Principle		Relevance to Acceptability
A	Decision making processes should effectively integrate both long term and short term economic, environmental, social, and equitable considerations	<i>This principle is inherently met through the EP assessment process. This principal is not considered separately for each acceptability evaluation.</i>
B	If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.	<i>An evaluation is completed to determine if the activity will result in serious or irreversible environmental damage. Where the activity has the potential to result in serious or irreversible environmental damage, an assessment is completed to determine if there is significant uncertainty in the evaluation.</i>
C	The principle of inter-generational equity—that the present generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations.	<i>Where the potential impacts and risk are determined to be serious or irreversible the precautionary principle is implemented to ensure the environment is maintained for the benefit of future generations.</i>
D	The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making.	<i>An assessment is completed to determine if there is the potential to impact biological diversity and ecological integrity.</i>
E	Improved valuation, pricing and incentive mechanisms should be promoted	<i>Not considered relevant for petroleum activity acceptability demonstrations.</i>

5.2.5 Risk Monitoring, Review and Record

Risks, risk treatments and controls require continual monitoring and review to determine whether assumptions and decisions remain valid. The risk environment and risk continually change, and treatment plans can also alter the risk. Stakeholders (which may be internal and external to the company) need to be consulted and kept informed.

The monitoring, review and recording activities provide assurance that:

- Emerging risks are identified, and existing risks remain relevant and managed
- Controls continue to be effective and efficient in design and operation
- Controls required for the risk to be ALARP are effectively implemented and operating as expected
- Risk management objectives remain appropriate and are supported by effective treatment activities
- The process for managing risk is operating effectively and efficiently
- Information on risk changes and treatment activities are documented
- Stakeholders are consulted and informed regularly of risk management progress and performance.

Additional aspects of monitoring and review are described in the Implementation Strategy in Section 10 of this EP include:

- Analysing and lessons learnt from events (including near-misses), changes, trends, successes and failures
- Detecting changes in the external and internal context (e.g., new conservation plans issued)
- Chemical selection and discharge process.

6 Risk and Impact Evaluation

To meet the requirements of the regulations (evaluation of environmental impacts and risks, environmental performance outcomes and standards), this section evaluates the impacts and risks associated with the Petroleum Activity appropriate to the nature and scale of each impact and risk and details the control measures that are used to reduce the risks to ALARP and an Acceptable level.

Environmental Performance Outcomes (EPO), Environmental Performance Standards (EPS), and Measurement Criteria are described in Section 9.

6.1 Impact and Risk Scoping

Interactions between activities and aspects are shown in Table 6-1. Where no disturbance or discharge of emission are identified in Section 3, then no planned interactions are shown. If no planned or unplanned aspects are identified for an activity, then no impacts or risks are identified, and it is not included in the subsequent section.

Within this section, impacts are framed as either a “lower order impact” or a “higher order impact”. Higher order impacts require a higher order of evaluation, as described in the NOPSEMA Environment Plan decision making guideline (N-04750-GL1721 A524696 June 2021).

All impacts are evaluated at the lower order until one or more factors trigger the impact to be evaluated at a higher level. These factors are:

- Uncertainty or complexity in the impact or risk assessment which requires further analysis or discussion, for example where modelling is required to understand the nature and scale of an impact.
- ALARP decision context B and above (refer to Section 5.2.4).
- Residual risk severity moderate and above (refer to Section 5.2.4).
- Stakeholder concerns (refer to Section 11).

Impacts and risks determined to be lower order (as per Section 5.2.4) are presented in Section 6.2, whilst higher order impacts and risks are evaluated in more detail in Section 6.3 onwards. The differentiation between higher and lower order impacts and risks is colour coded in Table 6-1. In some circumstances, lower order risks have been evaluated in more detail within Section 6.3 for the sake of clarity.

All aspects evaluated within Table 6-1 were considered as to the potential for material impacts from the planned activity and adjacent activities, and which warranted further analysis as to possible cumulative effects. assessment within the context of cumulative impact. Further analysis of underwater sound was undertaken given the potential for spatial and temporal overlap of noise from CHN activities and adjacent activities, at levels which could result in impacts to EPBC listed Endangered species.

Table 6-1: Aspect-Activity Interactions

	ASPECT																
ACTIVITY	Physical Presence		Planned Emissions			Planned Discharges					Unplanned Impacts				Accidental Release		
	Interaction with Other Marine Users	Seabed Disturbance	Light Emissions	Underwater Sound Emissions	Atmospheric and GHG Emissions	Cement	Other	Cooling Water and Brine	Deck Drainage, Operational discharges and Bilge	Sewage, Greywater and Putrescible	Interaction with Marine Fauna	Introduction of IMS	Waste (Hazardous and Non-hazardous)	Minor LOC (Chemicals and Hydrocarbons)	MDO / Vessel Collision	Loss of Containment	
Lower Order Impacts and Risks – blue																	
Higher Order Impacts and Risks – green																	
Surveys																	
Geophysical				H										L			
Operations																	
Subsea Operations	L			L	L		L							L		H	
IMR		L		H		L	L							L			
Support Operations																	
Vessel	L		L	H	L		L	L	L	L	L	H	L	L	H		
Divers		L															
Helicopters				H	L												
ROV		L										H			L		

6.2 Lower Order Impact and Risk Evaluation

6.2.1 Planned Aspects

Table 6-2: Lower Order Planned Impact and Risk Evaluation

Aspect	Predicted Impacts and Risks	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome	
Physical Presence									
Physical Presence – Interaction with Other Users: - Subsea operations (subsea infrastructure) - Vessel operations	Changes to the functions, interests and activities of other marine users	The physical presence of the offshore infrastructure and vessels can result in the displacement of other users Cwth and State waters. The operational area has gazetted PSZs for existing subsea wells Casino-4 and Casino-5 under Victorian Gazetted Notice G29-05, and Henry-2 and Netherby-1 under Victorian Gazetted Notice A194517. Commercial fisheries (State and Commonwealth) The operational area overlaps various commonwealth and state-managed fisheries management areas (refer to Table 4-4), with fishing records that indicate possible activity in two commonwealth and three state fisheries in the vicinity of the operational area (Table 4-4). The existing PSZs are small in comparison to the larger fishing areas and are not significant to commercial fishers. Commercial fishers have not raised claims or objections with the existing PSZs. Impacts to commercial fisheries are predicted to be localised and temporary. Impacts have been assessed as Level 1 .	Level 1	A	CM1: Marine exclusion and caution zones CM2: Pre-start notifications CM3: Marine Order 27 Safety of navigation and radio equipment CM4: Ongoing consultation CM5: Fisheries Damages Protocol CM6: Marine Order 30: Prevention of collision	N/A	N/A	Acceptable, based on: - Impacts well understood. - Consequence is Level 1, therefore no potential to affect biological diversity and ecological integrity. - Activity will not result in serious or irreversible damage. - Good practice controls defined and implemented. - Legislative and other requirements have been identified and met: - OPGSA 2006 - Navigation Act 2012 - CEMS Standards and Processes have been identified. - no claims or objections raised by stakeholders through engagement.	
		Shipping and Industry Shipping and industry activities in the operational area are expected to be limited to high shipping traffic and occasional traversing vessels related to surrounding production activities. There are no designated shipping lanes in the vicinity of the operational area (Australian Hydrographic Office 2021). AMSA have not raised claims or objections with existing PSZs. Given shipping and industry stakeholders have not raised claims or objections to the existing or PSZs, impacts to shipping and industry have been assessed as Level 1 .							
		Recreational Fishers and Tourism Key tourist and recreational activities in the area include sight-seeing, surfing and fishing however, these are generally land-based or near-shore activities and are not impacted by the activities. The existing PSZs will result in exclusion of tourist and recreational marine users. Given the limited size of PSZs (typically 500m radius), impacts to tourists and recreational fishers are expected to be minimal. Given the number and size of existing PSZs and the low number of users expected in the area, impacts to recreational fishers and tourists have been assessed as Level 1 .							
Emissions									
Emissions – Light Vessel operations	Change in ambient light	Ambient light, marine turtles, seabirds and migratory shorebirds Sources of light from the activity include navigation and safety lighting from vessels during the activity Cwth and State waters. These will be	Level 1	A	CM6: Marine Order 30: Prevention of collision	N/A	N/A	Acceptable, based on: Impacts well understood.	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts and Risks	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
Emissions – Atmospheric • Vessel operations • Helicopter operations	Change in fauna behaviour (attraction, disorientation)	continuous while vessels are in use, however intermittent and short term over the duration of the activity. There is no permanent source of light offshore at the Otway facilities. Light emissions will result in a change in ambient light within the Light Exposure Area, with a Level 1 consequence within that area. Light emissions may result in a localised change to marine fauna's behaviour. Species with the greatest sensitivity to light are marine turtles, seabirds and migratory shorebirds. The National Light Pollution Guidelines for Wildlife (DCCEEW, 2023) has been reviewed and light sensitive species have been identified. The purpose of the guideline is to minimise the adverse impacts on marine fauna from artificial lighting. The guidelines recommend a 20 km threshold as a precautionary limit based on observed effects of sky glow on marine turtle hatchlings demonstrated to occur at 15–18 km and fledgling seabirds grounded in response to artificial light 15 km away (DCCEEW, 2023). The PMST report for the Light Exposure Area identified three marine turtle species; loggerhead turtle (endangered), leatherback turtle (endangered) and green turtle (vulnerable), that are likely to / may have a habitat within the area. There are no known BIAs or habitats critical to the survival of marine turtle species within the Light Exposure Area, and no nesting sites or nesting behaviours identified in the Light Exposure Area. There are nine BIAs for bird species within the operational area, and there are no known nesting sites within 20 km of the activity (the light assessment boundary of 20 km from the source will be used as the extent of light exposure, in accordance with National Light Pollution Guidelines for Wildlife (DCCEEW, 2023)). Given the presence of sensitive receptors within the light exposure area, and the short-term nature of light emissions, the impact of light emissions to marine turtles and birds will be Level 1 .	Level 1		CM9: Pre-campaign risk review (light)	N/A	N/A	- Consequence level is Level 1, therefore no potential to affect biological diversity and ecological integrity. - Activity will not result in serious or irreversible damage. - Good practice controls defined and implemented. - Legislative and other requirements have been identified and met, and guidelines considered: - National Light Pollution Guidelines for Wildlife (2023) - including migratory shorebirds - EPBC Act Policy Statement 3.21— Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species - Activity will not impact the recovery of: - Albatrosses and Giant Petrels as per National Recovery Plan for Albatrosses and Petrels 2022 - CEMS Standards and Processes have been identified. - No stakeholder objections or claims have been raised.
		Plankton, fish and sharks At the time of writing, the National Light Pollution Guidelines for Wildlife (DCCEEW, 2023) identifies plankton and fish as being sensitive to light emissions. Given the temporary, localised nature of the vessel-based activities described within this plan, impacts, would be limited to temporary behavioural changes in small numbers of plankton, fish and their predators in the surface waters, in the near vicinity of the vessel. IMR activities would not introduce barriers to movement between any isolated patches of ecological communities. The consequence of impact of light emissions to plankton and fish is assessed as Level 1.	Level 1	A	CM10: Planned Maintenance System CM24: Vessels comply with Marine Order 97 – Marine Pollution – air quality	N/A	N/A	Acceptable, based on: - Impacts well understood. - Consequence level is Level 1, therefore no potential to affect biological diversity and ecological integrity. - Activity will not result in serious or irreversible damage.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts and Risks	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
		be continuous whilst the vessels are in use, however intermittent and short term over the duration of the activity. There is no combustion equipment offshore during normal operations. The use of fuel (specifically marine-grade diesel) to power engines, generators and mobile and fixed plant (e.g., ROV, back-deck crane, generator) will result in emission of GHG such as carbon dioxide (CO₂), methane (CH₄) and N₂O, along with non-GHG such as sulphur oxides (SOX) and nitrous oxides (NOX). Potential receptors above the sea surface within the operational area that may be exposed to reduced air quality include seabirds and marine fauna that surface for air (e.g., marine mammals and marine turtles) and social receptors (e.g., commercial fisheries, local towns). No local settlements or critical habitats are expected to be impacted by air quality changes arising from the Otway Offshore Operators Emissions will be small in quantity and the open ocean environment and prevailing winds of the Otway Basin atmospheric emissions will rapidly disperse to background levels, therefore any localised reduction in air quality is not expected to result in any measurable effect. Therefore, impacts to marine fauna and social receptors from a change in air quality are not expected and have not been evaluated further. Given the localised and temporary nature of the change in air quality, the consequence of any impacts from atmospheric emissions are assessed as Level 1. Greenhouse Gas Emissions have received additional evaluation in Section 6.4.					- Good practice controls defined and implemented. - Legislative and other requirements have been identified and met: - Marine Order 97 (Marine pollution prevention – air pollution) 2013 - CEMS Standards and Processes have been identified. - No stakeholder objections or claims have been raised.	
Planned Discharges								
Planned Discharges – Cement IMR (grout bag installation – cement excess)	Change in water quality	Cement will be discharged during IMR activities involving grout bag installation. Grout bag installation will involve pumping grout (cement and water) through a hose from the vessel to fill grout bags underwater. Minor leakage of grout may occur during filling of the bags and when the hose is flushed with seawater at the completion of operations, dispersing residual grout into the marine environment. The volume of grout discharged per job is expected to be 0.3 m³. These cement particles will disperse under action of waves and currents, and eventually settle out of the water column; the initial discharge will generate a downwards plume, increasing the initial mixing of receiving waters (State and / or Cwth waters). Water quality within the operational area is expected to be representative of the expected quality found in the Otway Basin waters. Impacts to flora and fauna from changes in water quality are expected to be limited due to the localised and temporary nature of changes to water quality. It is well recognised and established through common marine and industry practice (e.g. MARPOL, OSPAR) that discrete planned operational discharges, with appropriate treatments in place, have limited impact within the open ocean; discharges disperse quickly over a small area, such that there are expected to be no discernible changes at a regional or systems scale such as to the occurrence or	Level 1	A	CM11: Cooper Energy Offshore Chemical Assessment Procedure.	N/A	N/A	Acceptable based on: - Impacts well understood. - Consequence level is Level 1, therefore no potential to affect biological diversity and ecological integrity. - Risk level to receptors a result of the change in ambient conditions is low. - Activity will not result in serious or irreversible damage. - Good practice controls defined and implemented. - Cooper Energy MS Standards and Processes have been identified. - During stakeholder consultation, members of the Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) noted that the Bonney upwelling is seen a key value to Gunditjmarra. The Gunditj Mirring Country Plan describes the Bonney upwelling as providing for culturally important species, by bringing cold nutrient rich water into the region which promotes plankton growth (GMTOAC, 2023). Cooper Energy has expanded the assessment of potential impacts from discharges to include consideration of

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts and Risks	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
		extent of the Bonney Upwelling key ecological feature, or related productivity. Impacts are assessed as Level 1 .						regional system level impacts to the Bonney Upwelling.
	Change in habitat	Cement job excess, which is pumped to the seabed is expected to be 0.3 m³. Cement overspill on the seabed will change seabed habitat within 10-50 m of each well. Benthic environments in the operational area includes hard calcarenite of varying relief and some areas of unconsolidated sediment. Cement overspill would not be expected to significantly alter the overall character of the seabed, or its ecological amenity. Impacts to epifauna would be localised and recoverable, with no threat to EPBC Act listed threatened benthic fauna. Benthic habitats within the operational area are represented throughout the SE marine region. Any impacts will be highly localised, are expected to be recoverable, and will not affect the long-term success of the ecosystem and are assessed as a Level 1 .	Level 1					
	Risk event: Injury / Mortality	A surface discharge of cement slurry of 0.3 m³ is expected per job (State and / or Cwth waters). Surface cement slurry discharges is expected to result in a temporary suspended solid plume. Assuming initial limited mixing within a water column 100m radius and 10m height and total quantity 0.5 tonnes of cement would dilute to <2 mg/L. The mixing zone would expand, and concentration of cement become further diluted over time. In the context of previous studies, discharges of this nature and scale are unlikely to have discernible impacts: - Jenkins and McKinnon (2006) reported that levels of suspended sediments greater than 500 mg/L are likely to produce a measurable impact upon larvae of most fish species, and that levels of 100 mg/L will affect the larvae of some species if exposed for periods greater than 96 hours. Jenkins and McKinnon (2006) also indicated that levels of 100 mg/L may affect the larvae of several marine invertebrate species and that fish eggs and larvae are more vulnerable to suspended sediments than older life stages. - Neither the modelling by de Campos <i>et al</i> (2017) or BP (2013) suggest that suspended solids concentrations from a discharge of the cement washing will be at or near levels required to cause an effect on fish or invertebrate larvae, i.e., predicted levels were well below a 96-hr exposure at 100 mg/L, or instantaneous 500 mg/L exposure. Planktonic communities within the operational area will be typical of the offshore marine environment in the region. Given the high energy marine environment and naturally high variability in plankton levels, any impacts will be localised and temporary and have been assessed as Level 1 , with no discernible changes at the systems level (Bonney Upwelling)	Level 1	A		Remote (E)	Low	
Planned Discharges – Other Subsea operations	Change in water quality	During IMR activities, hydraulic fluid, MEG and other chemicals such as dye, oxygen scavengers, biocide, and corrosion inhibitors may be used and discharged to the marine environment (State and / or Cwth waters). Chemicals incumbent within the Pecten-East-to-Netherby Section of	Level 1	A	CM11: Cooper Energy Offshore Chemical Assessment Procedure	N/A	N/A	Acceptable based on: - Impacts well understood. - Consequence level is Level 1, therefore no potential to affect biological diversity and ecological integrity.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts and Risks	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
- IMR - ROV		pipeline including oxygen scavenger, biocide, and dye are likely to have reduced in their efficacy since their initial use. All chemicals are selected in accordance with the Cooper Energy Offshore Chemical Procedure to ensure ecotoxicity profiles are of an acceptable level. The major constituents of the fluids that may be used for IMR campaigns are generally non-toxic, readily degradable or dispersible. Subsea discharges will rapidly dissipate into the environment with any minor toxic constituents (e.g., biocide) being diluted to PNEC levels, and near the discharge point. Water quality within the operational area is expected to be representative of the expected quality found in the Otway Basin waters. Given the high energy marine environment, discharges during operations and IMR will dissipate rapidly and any change in water quality will be localised and temporary. It is well recognised and established through common marine and industry practice (e.g. MARPOL, OSPAR, OCNs) that discrete planned operational discharges, with appropriate treatments in place, have limited impact within the open ocean; discharges disperse quickly over a small area, such that there are expected to be no discernible changes at a regional or systems scale such as to the occurrence or extent of the Bonney Upwelling key ecological feature, or related productivity. Impacts are assessed as Level 1.						- Risk level to receptors a result of the change in ambient conditions is low. - Activity will not result in serious or irreversible damage. - Good practice controls defined and implemented. - Cooper Energy MSS and Processes have been identified. - During stakeholder consultation, members of the Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) noted that the Bonney upwelling is seen a key value to Gundiljmarra. The Gunditj Mirring Country Plan describes the Bonney upwelling as providing for culturally important species, by bringing cold nutrient rich water into the region which promotes plankton growth (GMTOAC, 2023). Cooper Energy has expanded the assessment of potential impacts from discharges to include consideration of regional system level impacts to the Bonney Upwelling.
	Risk event: Injury / mortality	Plankton Early life stages of fish (embryos, larvae) and other plankton would be most susceptible to the toxic exposure from chemicals in the hydraulic fluid discharges, as they are less mobile and therefore can become exposed to the plume at the outfall. However, these are expected to rapidly recover once the activity ceases, as they are known to have high levels of natural mortality and a rapid replacement rate (United Nations Environment Program (UNEP), 1985). Planktonic communities within the operational area will be typical of the offshore marine environment in the region. Given the high energy marine environment, discharges will dissipate rapidly and any impacts to plankton will be localised and will not result in significant impacts on population level of organisms or that would affect ecological diversity or productivity within Commonwealth marine areas. Rather it is considered to result in an undetectable, limited local degradation of the environment, rapidly returning to original state by natural action. The risk level has been determined as Low.	Level 1	A		Remote (E)	Low	
Planned Discharges – Cooling Water and Brine; Sewage, greywater and putrescible; deck drainage and bilge. Vessel operations	- Change in water quality - Injury/mortality	Ambient water quality Routine vessel discharges include: Cooling water [State and/or Cwth waters] – seawater is used as a heat exchange medium for the cooling of machinery engines. The seawater goes through a heat exchanger that transfers heat from the vessel engines and machinery to the seawater. Once the seawater goes through the system it is discharged back into the ocean. Brine – brine is generated from the water supply system. Brine is discharged to the open ocean at a salinity of approximately 10% higher	Level 1	A	CM10: Planned Maintenance System CM12: Emissions and Discharge Standards	-	Low	Broadly Acceptable, based on: - Impacts well understood. - Consequence level is Level 1, therefore no potential to affect biological diversity and ecological integrity. - Risk level to receptors a result of the change in ambient conditions is low. - Activity will not result in serious or irreversible damage. - Good practice controls defined and implemented.

Aspect	Predicted Impacts and Risks	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
		than seawater. The volume of discharge is dependent on the amount of people on board the vessel that require fresh (or potable) water. Sewage [Cwth waters] and grey water [State and / or Cwth waters] – the volume of sewage and grey water discharge is dependent on the number of people on board the CSV and other vessels. Approximately 0.04 m³ and 0.45 m³ of sewage/grey water will be generated per person, per day (EMSA 2016). There are no stipulated volume limits for either sewage or greywater within the regulations. Putrescible waste (Cwth waters)– food waste will be generated on board the CSV and vessels, approximately 1 L of food waste per person, per day is expected. Deck drainage and bilge (State and / or Cwth waters) – may comprise of water, particulate matter, residual chemicals and oils caught in bunds and on deck. Contaminated water, directed to an oily water treatment system, is treated to a concentration of 15 ppm (or less) oil in water before discharge. Discharges will result in localised impact on water quality from increased temperature, salinity, nutrients, and chemical toxicity. Increased Temperature and salinity Modelling of continuous wastewater discharges (including cooling water) undertaken by Woodside for its Torosa South-1 drilling program in the Scott Reef complex found that discharge water temperature decreases quickly as it mixes with the receiving waters, with the discharge water temperature being <1 °C above ambient within 100 m (horizontally) of the discharge point, and 10 m vertically (Woodside, 2014). Brine water will sink through the water column where it will be rapidly mixed with receiving waters and dispersed by ocean currents. As such, temperature and salinity impacts are expected to be limited to the source of the discharge where concentrations are highest. Chemical Toxicity Release of scale inhibitors and biocides into the environment have the potential to result in acute and chronic toxicity to marine fauna. Standard marine vessel discharges typically use these chemicals in low concentrations, which upon discharge, rapidly dilute to below PNEC Temporary and localised reduction in water quality (nutrients and biochemical oxygen demand). Monitoring of sewage discharges for another offshore project (Woodside 2014) determined that a 10 m³ sewage discharge reduced to ~1% of its original concentration within 50 m of the discharge location. In addition, monitoring at distances 50, 100, and 200 m downstream of the platform and at five different water depths confirmed that discharges were rapidly diluted and elevations in water quality monitoring parameters (e.g., total nitrogen, total phosphorous, and selected metals) were not recorded above background levels at any station. During the Activity, the amount of sewage and grey water to be discharged per day will be significantly lower than 10 m³ for support vessels (1-3 m³). Open marine waters are typically influenced by regional wind and large-scale current patterns resulting in the rapid mixing of surface and near surface waters and the low volume discharges; it is well recognised and					- Legislative and other requirements have been identified and met: - Marine Order 91 – Marine pollution prevention – oil (as relevant to vessel class) - Marine Order 95 – Marine pollution prevention – garbage (as appropriate to vessel class) - Marine Order 96 – Marine pollution prevention – sewage (as appropriate to vessel class) - Activity will not impact on the values and functions of the Bonney Upwelling KEF. - Cooper Energy MS Standards and Processes have been identified. - During stakeholder consultation, members of the Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) noted that the Bonney upwelling is seen a key value to Gunditjmarra. The Gunditj Mirring Country Plan describes the Bonney upwelling as providing for culturally important species, by bringing cold nutrient rich water into the region which promotes plankton growth (GMTOAC, 2023). Cooper Energy has expanded the assessment of potential impacts from discharges to include consideration of regional system level impacts to the Bonney Upwelling.	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts and Risks	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
	Risk event: Injury /mortality	established through common marine and industry practice (e.g. MARPOL, OSPAR, OGNs) that discrete planned operational discharges, with appropriate treatments in place, have limited impact within the open ocean; discharges disperse quickly over a small area, such that there are expected to be no discernible changes at a regional or systems scale such as to the occurrence or extent of the Bonney Upwelling key ecological feature, or related productivity. Therefore, the consequence of impacts to water quality will be Level 1.						
		Plankton Mortality rates for plankton are naturally high with distribution often patchy and linked to localised and seasonal productivity that produces sporadic bursts in phytoplankton and zooplankton populations (Department of Environment Heritage Water and the Arts (DEWHA), 2008). A change in water quality as a result of routine vessel discharges is unlikely to lead to injury or mortality of plankton at a measurable level and will not result in a change in the viability of the population or ecosystem. There are no KEFs within the operational area, or adjacent to it, which have the potential to be changed at a systems level by the planned small scale operational discharges. Therefore, the risk to plankton from planned surface operational discharges have been evaluated as Low. Impacts to larger marine fauna (such as fish, seabirds, marine mammals and marine reptiles) are not expected.	Level 1	A		Remote (E)	Low	

6.2.2 Unplanned Aspects

Table 6-3: Lower Order Unplanned Events Risk Evaluation

Aspect	Predicted Impacts	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
Physical Presence								
- Interaction with Marine Fauna - Vessel operations - Subsea operations (subsea infrastructure)	- Change in fauna behaviour (avoidance) - Injury / mortality	Marine mammals, marine reptiles, fish Marine fauna interactions could occur as a result of movement of vessels within the operational area. Interactions could cause a change in marine fauna behaviour or injury / mortality. Slow moving megafauna that are within the surface waters and breach often are most at risk from interactions with vessels within the operational area. Marine mammals must surface to breathe periodically and may spend much of their time at or near the surface. This behaviour makes marine mammals, particularly large mammals such as baleen whales, vulnerable to vessel strikes. Cetaceans are naturally inquisitive marine mammals that are often attracted to offshore vessels and facilities, however, the reaction of whales to the approach of a vessel is variable. Some species are curious and often approach ships that have stopped or are slow moving, although they generally do not approach, and sometimes avoid, faster-moving ships (Richardson <i>et al.</i>, 1995). Collisions between larger vessels with reduced manoeuvrability and large, slow-moving cetaceans occur more frequently where high vessel traffic	Level 2	A	CM13: EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans (Cwth waters) and Victorian (Marine Mammals) Regulations 2019 (Vic state water). Caution zone extended to 500m between whales and project vessels* *Cooper Energy will apply an increased caution zone around whales, providing additional protection to whales from potential vessel strikes.	Unlikely (D)	Low	Broadly Acceptable, based on: - Impacts well understood. - Residual risk (severity) is Low. - Consequence level is Level 2, therefore no potential to affect biological diversity and ecological integrity. - Activity will not result in serious or irreversible damage. - Good practice controls defined and implemented. - Legislative and other requirements have been identified and met: - EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans - National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (CoA 2017b)

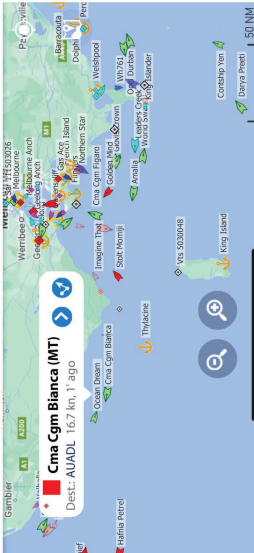
Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
		and cetacean habitat occurs (Whale and Dolphin Conservation Society, 2003). Laist <i>et al.</i> (2001) identified that larger vessels with reduced manoeuvrability moving in excess of 10 knots may cause fatal or severe injuries to cetaceans, with the most severe injuries caused by vessels such as tankers travelling faster than 14 knots and with limited manoeuvrability. Vessels used to support these activities do not have the same limitations on manoeuvrability and would typically travel at economy speeds (or lower) when conducting activities within the scope of this EP, inside the operational area. Listed threatened and migratory marine fauna presence in the operational area includes: - Four threatened marine mammal species: Southern Right Whale (Endangered), Blue Whale (Endangered), Sei Whale (Vulnerable) and Fin Whale (Vulnerable) - Eight migratory marine mammals: Killer Whale, Dusky Dolphin, Southern Right Whale, Blue Whale, Sei Whale, Fin Whale, Pygmy Right Whale and Humpback Whale). - Three marine mammal BIAs for Pygmy Blue Whale (Distribution and Foraging) and the Southern Right Whale (Migration (State/Cwth) and Reproduction (State)). - Three migratory and threatened marine reptiles, Leatherback Turtle, Loggerhead Turtle and Green Turtle. No BIA's have been identified within the operational area for marine reptiles. - Three threatened fish species: Blue Warehou (Conservation Dependent), Southern Bluefin Tuna (Conservation Dependent) and Australian Grayling (Vulnerable). This does not have an associated BIA within the operational area. - Two threatened shark species: Great White Shark (Vulnerable), Eastern School Shark (Conservation Dependent). The Great White Shark has Distribution BIA within the operational area. - Three migratory shark species; Great White Shark, Shortfin Mako, Mackerel Porbeagle. The operational area has no threatened species presence or BIAs for pinnipeds, dugongs or dolphins, however Australian fur-seals and long-nosed fur-seals may be present. The following management plans and conservation advices identify vessel strike as a threat: - CMP for the Blue Whale (CoA, 2015). - RP for the Southern Right Whale (DCCEEW, 2024). - Conservation Advice for the Sei Whale (TSSC, 2015c). - Conservation Advice for the Fin Whale (TSSC, 2015d); and - Recovery Plan for Marine Turtles in Australia (CoA 2017) The occurrence of physical interactions with marine fauna is very low with no incidents occurring during Cooper Energy activities in the region. If an incident occurred, it would be restricted to individual fauna and not have impacts to local population levels. The consequence of an impact is predicted to be limited to individuals, assessed as Level 2, as short-term impacts to species or habitats of recognized conservation value, not affecting local ecosystem function. The impact is conceivable and could occur, however it would require a rare combination of factors and is therefore considered Unlikely (D).		CM39: Vessel Speed Vessels undertaking petroleum activities in operational areas overlapping with preferred calving and nursing areas (<10 m water depth) within 1 km of the coastline will operate at <10 knots during times when southern right whales are expected to be present (including peak and shoulder seasons).		- Section 229 of the EPBC Act - Activity will not impact the recovery of: - Marine turtles as per the Recovery Plan for Marine Turtles in Australia (CoA 2017). - White Shark as per the Recovery Plan for the White Shark (Carcharodon carcharias) (DSEWPac 2013). - Australian Sealion as per the Recovery Plan for the Australian Sealion (DSEWPac, 2013) - Blue Whale per the CMP for the Blue Whale, 2015-2025 - Southern Right Whale as per the Recovery Plan for the Southern Right Whale (DCCEEW 2024). - Conservation Advice for the Sei Whale (TSSC, 2015c). - Conservation Advice for the Fin Whale (TSSC, 2015d); and - Cooper Energy MS Standards and Processes have been identified. - During stakeholder consultation, members of the Gunditj Mirring Traditional Owners Aboriginal Corporation (GMITOAC) expressed concern regarding potential interactions Cooper Energy may have with whales offshore (GMITOAC and Members consultation day, Feb 2024). Cooper Energy described how vessels used by Cooper Energy followed avoidance protocols under EPBC Regulations and Vic Marine Mammal regulations, with an extended caution zone of 500m around whales. A representative of Environmental Justice Australia, at the same meeting, also queried if cumulative impacts from activities in the region had been assessed. In the context of the values and sensitivities described by GMITOAC, further assessment of potential cumulative impacts to whales (Kamtubul) from regional vessel activities, considering CHN Operations as an additional factor, has been included within the evaluation in this Section of the EP.		

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
		<i>Cumulative Impacts to whales</i> Activity vessels operating in State or Commonwealth waters will be within blue whale foraging and Southern Right Whale migration BIAs. There are existing activities and vessel traffic within the Otway Region that also overlap these BIAs; where vessel traffic is high there is potential for cumulative impacts. The Southern Right Whale Recovery Plan hypothesises that the lower recovery rate of the eastern population vs. the western population may in part be due to increased marine traffic in the east (DCEEW, 2024). The International Whaling Commission (IWC) (2020) report around 900 cases of vessel strikes with cetaceans across the globe inclusive of all historical records; 35 of those strikes were identified as within Australian jurisdictions, indicating that reports of vessel strikes are relatively low. Although the chance of a collision between a whale and a vessel at an individual level may be low, the high number of vessels offshore Victoria, together with recovering numbers of whales expected particularly within BIA areas, increases the probability of an interaction occurring. DCEEW 2024 indicate a vessel strike is almost certain within the eastern southern right whale population. Although vessel strikes typically involve individual animals, multiple or cumulative strikes increase the chance of impacts at the population level, and the potential to affect population recovery rates. An activity vessel striking a southern right whale is considered to be unlikely, the vessels used for the activity also do not operate at speeds in excess of 12 knots when within the operational area, whereas a large proportion of the recreational and merchant traffic can and do travel at speed. The figure below shows a snapshot of marine traffic off the coast of Victoria on a given day; a label for one of the container ships in view shows the ships destination and speed of 16.7 knots:  Project vessels are also infrequent in this area, with campaign frequency at the CHN subsea facility typically >1 year, and duration in the order of weeks. Given the nature and scale of the vessel activities provided for in this plan, the activity is not considered to increase the overall probability of a vessel striking a whale within the region. With control measures in place, including caution zones for whales increased above those specified within the regulations, the activity is not expected to impact on individual whales, or therefore species or sub-populations, and does therefore not add discernibility to the current levels of risk in the region. Short-finned eels						

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
		The physical presence of subsea infrastructure and vessel operations would not be expected to change migration behaviours of short-finned eels. Short-finned eels during the oceanic migration phase of their life cycle were observed to exhibit strong diel vertical migrations and moved between water depths of ~100 to 900 m (Koster et al. 2021). The physical presence of subsea infrastructure is not expected to obstruct strong diel vertical migration of highly mobile short-finned eels. The temporary presence vessels in the operational area will also not be expected to change migration behaviours of short-finned eels based on the preference to remain within water depths of ~100 to 900 m, which avoids surface water depths where the presence of vessel operations occur. Given the highly mobile nature of short-finned eels and water depth preference, change in short-finned eel migration behaviours from physical presence of subsea infrastructure and vessel operations is not considered credible and has not been evaluated further.						
Unplanned Discharges								
Unplanned Discharge – Minor LOC (Chemicals and Hydrocarbons) - Vessel operations - ROV operations	Change in water quality	Ambient water quality LOC scenarios (State and / or Cwth waters) include: - EHU failure (~1 m³) - Minor LOC from subsea infrastructure (e.g., dropped objects from campaign activities) - Unplanned discharge from ROV, geophysical equipment being operated subsea < 200 L hydraulic fluid - Hydraulic line failure is associated with small volume spill events – with the maximum volume based upon the loss of an intermediate bulk container ~1 m³. The potential impacts to water quality are assessed consequence Level 1 minor local impacts with nil to negligible remedial recovery to water systems. This assessment considers the energetic offshore environment in the Otway fields which would be expected to quickly disperse releases of this nature, resulting in minor local impacts. This assessment considers any indirect impacts to species arising from theoretical exposure would also be negligible given the limited exposure duration and extent due to rapid dispersion and return to ambient conditions post event. While the impact is conceivable and could occur, it would require a rare combination of factors and is therefore considered Unlikely (D) and as such the overall risk level being Low.	Level 1	A	CM1: Marine exclusion and caution zones CM4: Ongoing consultation CM6: Marine Order 30: Prevention of collisions CM10: Planned Maintenance System CM14: Vessel compliant with MARPOL Annex 1, as appropriate to class (i.e., SMPEP or equivalent)	Unlikely (D)	Low	Broadly Acceptable, based on: - Impacts well understood. - Residual risk (severity) is Low. - Consequence is Level 1, therefore no potential to affect biological diversity and ecological integrity. - Activity will not result in serious or irreversible damage. - Good practice controls defined and implemented. - Legislative and other requirements have been identified and met: - AMSA's Marine Order Part 91 (Marine pollution prevention – oil Marine) - Activity will not impact the recovery of EPBC listed species. - Cooper Energy MS Standards and Processes have been identified. - No stakeholder objections or claims have been raised.
Unplanned Discharge - (Hazardous / Non-hazardous Waste) Vessel operations	- Change in water quality - Change in fauna behaviour - Injury / mortality	Seabirds and migratory Shorebirds, Marine Turtles and Marine Mammals The handling and storage of materials and waste on board vessels has the potential for accidental over-boarding of hazardous/non-hazardous materials and waste. Small quantities of hazardous/non-hazardous materials (solids and liquids) will be used, and wastes created, handled, and stored on board until transferred to port facilities for disposal at licensed onshore facilities. However, accidental releases to sea are a possibility, such as in rough ocean conditions when items may be washed off or be blown off the deck.	Level 2	A	CM12: Emissions and Discharge Standards CM15: Waste Management Practices	Unlikely (D)	Low	Broadly Acceptable, based on: - Impacts well understood. - Residual risk (severity) is Low. - Consequence level is below 4, therefore no potential to affect biological diversity and ecological integrity. - Activity will not result in serious or irreversible damage. - Good practice controls defined and implemented. - Legislative and other requirements have been identified and met.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Aspect	Predicted Impacts	Consequence Evaluation	Consequence	ALARP Decision Context	Control Measures	Likelihood	Residual Risk Severity	Acceptability Outcome
		Waste accidentally released to the marine environment can cause a change in fauna behaviour, a change in water quality, and may lead to injury or death to individual marine fauna through ingestion or entanglement. The following management plans and conservation advice identify marine debris as a threat • National Recovery Plan for Albatrosses and Petrels 2022 (DCCEEW, 2022a) • Recovery Plan for Marine Turtles in Australia (CoA 2017) • Draft Wildlife Conservation Plan for Seabirds (CoA, 2019) • Threat Abatement Plan for the impacts of marine debris on vertebrate wildlife of Australia's coasts and oceans (CoA, 2018) • Blue Whale Conservation Management Plan 2015 - 2025 (2015) • Recovery Plan for the Southern Right Whale (DCCEEW, 2024) • Recovery Plan for the Australian Sea Lion (<i>Neophoca cinerea</i>) (2013) • Commonwealth Conservation Advice on <i>Dermochelys coriacea</i> (2008) DAWE (2022) reports that there have been 104 records of cetaceans in Australian waters impacted by plastic debris through entanglement or ingestion since 1998 (humpback whales being the main species). However, the Threat Abatement Plan (2018) suggests that most marine plastic debris are associated to shipping fishery and household activities (fishing gear, balloons and plastic bags). Waste generated on board vessels will be handled in accordance with AMSA Discharge Standards and respective vessel Garbage Management Plans (GMP); these require that particular wastes are managed so that it is not lost or discarded overboard. Given this, any waste lost overboard would be in minimal quantities. The consequence of any impacts from marine debris would be limited and is assessed as Level 2. This assessment considers any indirect impacts to species arising from theoretical exposure to hazardous and non-hazardous wastes. While the impact is conceivable and could occur, from this activity, which is relatively short term, it is considered Unlikely (U) and as such the overall risk level is Low.					◦ Marine Order 95 – Marine pollution prevention – garbage (as appropriate to vessel class) ◦ Protection of the Sea (Prevention of Pollution from Ships) Act 1983. ◦ Navigation Act 2012 – Chapter 4 (Prevention of Pollution). • Activity will not impact the recovery of: ◦ Albatross and Giant Petrel populations breeding and foraging as per the National Recovery Plan for Albatrosses and Petrels 2022 (DCCEEW, 2022a) ◦ Marine turtles as per the Recovery Plan for Marine Turtles in Australia (CoA 2017). • Cooper Energy MSS and Processes have been identified. • No stakeholder objections or claims have been raised.	

6.3 Seabed Disturbance

6.3.1 Cause of Aspect

Seabed disturbance will occur within the operational area as a result of the following activities (Table 6-4). These activities are described in Section 3, indicative footprints are described below.

Table 6-4: Seabed Disturbance Estimated Footprints

Cause of Aspect	Activity component	Area of Impact
Operations	IMR (State and / or Commonwealth waters)	Span rectification and stabilisation, movement and preparation of seabed directly beneath pipelines and umbilicals if repairs required. Nominally <25 m ² disturbance during IMR campaign. This could increase in the case of pipeline or umbilical repair activities. For assessment purposes it is assumed a 2km section of pipeline requires remediation with disturbance corridor equivalent to the operational area (500m) giving a disturbance footprint of 1km ²
Support Operations	Vessel operations (State and / or Commonwealth waters)	Anchoring may be required where it is too shallow to use vessel's dynamic positioning mode (i.e., closer to shore in state waters). Disturbance estimated based on 4-point mooring arrangement (2 x bow and 2 x stern) with disturbance in the order of 10 m ² per anchor accounting for deployment, setting and recovery.
	ROV Operations (State and / or Commonwealth waters)	ROV typically recovered after every trip. Some disturbance from flying close to seabed or if set on seabed temporarily: < 10 m ² Transponders are typically also deployed attached to equipment (e.g., gravity anchors), or to the seabed on a frame or ballast. Transponders: 1.5 m ² per frame Transponders are recovered at the end of the offshore campaign or when no longer required for positioning.

6.3.2 Predicted Environmental Impacts (Consequence)

Potential impacts from seabed disturbance are:

- Change in benthic habitat.

Potential risk events associated with change in water quality arising from seabed disturbance are:

- Impacts to benthic and demersal invertebrate communities.
- Impacts to fish and commercial fisheries.
- Impacts to cultural heritage

6.3.3 Impact and Risk Evaluation

6.3.3.1 Impact: Change to benthic habitat

Inherent Consequence Evaluation

During operations, there will be some minor seabed disturbance associated with periodic IMR activities. There is also a potential for seabed scouring, a result of the infrastructure being in place, whereby currents may erode sediments around the equipment. Any such impacts would be minimal, limited to the immediate vicinity of the infrastructure; scouring is a natural feature on the Otway shelf; the underlying hard calcareous seabed, highly variable relief, patches of unconsolidated sediments and exposure to prevailing weather from the south result in frequent areas of bare hard caprock, and limited deposition of terrigenous sediment. The operational area is similarly characterised by hard calcarenite platform with patches of unconsolidated fine-course sediments. Epifauna are associated with both substrate types (Fugro, 2020).

The operational area benthic habitat is typical of the broader area at this water depth, and it does not intersect any Australian Marine Parks or spatially defined KEFs. The operational area does include hard

substrate. The SE Marine bioregional plan identifies rocky reefs and hard ground as a KEF; this KEF is located in all areas of the South-east Marine Region continental shelf including Bass Strait, from the sub-tidal zone shore to the continental shelf break.

Physical changes associated with IMR and support operations, where they involve the placement or movement of materials and equipment on the seabed, will be long-term but localised and limited to the operational area. Direct disturbance to the seabed and associated ecological communities (i.e., a KEF such as shelf rocky reefs within the South-east Marine Region) are recoverable. The lines and structures do not significantly change the character or ecological amenity of the seabed. New equipment and materials, if required for IMR, will have a localised footprint, and would be progressively colonised. Recovery from disturbance, including direct infrastructure footprints has been observed through pipeline inspections. A range of epifauna including sponges, bryozoans and hydrozoans have colonised the Stage I & II flowlines and umbilicals, and seabed immediately adjacent (Figure 6-1).

The consequence of this impact has been evaluated as Level 1.

6.3.3.2 Risk Event: Benthic and demersal invertebrate communities from changes in water quality

Inherent Consequence Evaluation

Seabed disturbance from IMR or support operations will potentially result in the suspension of sediments, and redeposition that could cause impact on benthic and demersal invertebrate communities. This type of disturbance will be minimal accounting for the lack of fine, soft substrates in the area; those sediments that are present appear to be mobile, as inferred from sand waves and localised burial of equipment observed during inspection (Figure 6-1, Fugro 2020).

Benthic fauna is generally sparse and characteristic of the broader region. No significant areas of primary production have been identified during surveys (Table 4-3). Historical surveys of the Casino pipeline route noted the interspersed presence of sponge habitats throughout the survey area and found it representative of what is expected throughout the Otway Basin. Invertebrate species located in the vicinity of the current and future pipeline alignments include sponges, hydrozoans, cnidarians and bryozoans (Fugro, 2020, Figure 6-1).

Any disturbance to invertebrate communities from IMR or support operations is expected to be localised and short term based on expectations that the communities would likely recover over a short period. The estimated disturbance footprint from IMR is in the order of 1 km², depending on the particular activity. Kukert (1991) showed that approximately 50% of the macrofauna on the bathyal sea floor were able to burrow back to the surface through 4-10 cm of rapidly deposited sediment. Dernie *et al.* (2003) conducted a study that showed the full recovery of soft sediment assemblages from physical disturbance could take between 64 and 208 days. Mobile invertebrates are generally less vulnerable than sessile taxa to sedimentation, as they are able to move to areas with less sediment accumulation or by more efficiently physically removing particles (Fraser, *et al.* 2017). Sessile invertebrates are particularly vulnerable to sedimentation because they are generally unable to reorientate themselves to mitigate a build-up of particulates. However, some sessile taxa, including species of sponges and bivalves, have the capacity to filter out or to physically remove particulates (Roberts, Davis and Cummins 2006, Pineda, Duckworth and Webster 2016). Sediment-burrowing infauna and surface epifauna invertebrates (particularly filter feeders) which inhabit the seabed directly around subsea infrastructure locations are expected to be most impacted by seabed disturbance activities. The sensitivity of such infauna and epibenthic communities to smothering, change in benthic habitat, and change in water quality are expected to be low and recoverable given the resilience to natural stressors including storm events and associated episodic increases in particulate load.

As such, the consequence of disturbance to seabed communities from temporary changes in water quality is expected to be Level 1.

Inherent Likelihood

The time period of these activities and associated consequences is in the range every 1-2 years. The inherent likelihood of a **Level 1** consequence occurring is therefore rated as **B**.

Inherent Risk Severity

The inherent risk severity of impacting benthic and demersal invertebrate communities is considered **Low**.

6.3.3.3 Risk Event: Impacts to Fish and commercial fishers due to changes in water quality

Inherent Consequence Evaluation

The installation of infrastructure will potentially result in the suspension of sediments, and redeposition that could cause impact on fish, including commercial species.

Mobile invertebrates such as fish, are generally less vulnerable than sessile taxa to sedimentation, as they are able to move to areas with less sediment accumulation or by more efficiently physically removing particles (Fraser, *et al.* 2017).

The sediments in this area are regularly mobilised through natural processes. Given the sand or fine gravel present as substrate within the operational area, disturbance to fish species expected to be localised and likely to recover over a short period, with disturbance limited to occasional vessel movements or IMR activities.

Commercially fished invertebrate and fish species are known to occur within operational area. Given the mobile nature of commercial species of invertebrates and fishes, impacts are assessed as are **Level 1** consequence.

Inherent Likelihood

Given the nature and expected frequency of IMR activities, the inherent likelihood of a Level 1 consequence occurring is rated **B**.

Inherent Risk Severity

The inherent risk severity of impacting benthic and demersal invertebrate communities is considered **Low**.

6.3.3.4 Risk Event: Disturbance to cultural heritage

Inherent Consequence Evaluation

Identifying features such as sites of European heritage is important to ensure heritage values and sensitivities are protected and preserved. Reliable information about the occurrence and extent of such features can be limited or not readily accessible. No physical artefacts have been identified in the operational area.

Equipment in the operational area is expected to be in direct contact with the seabed and will have local influence on sediment movement whilst they are in place. The changes are expected include local patches of scour and deposition in close proximity to structures; these processes occur naturally within the region and are continual. The presence of the CHN subsea equipment is not expected to exacerbate the influence of natural processes on heritage on or within the seabed in the region.

There are no known shipwrecks, sunken aircraft, or associated relics in the operational area.

As such the consequence has been assessed as a **Level 1** consequence (temporary / localised).

Inherent Likelihood

The time period of these activities and associated consequences is in the range of approximately every 2 years. The inherent likelihood of a **Level 1** consequence occurring is rated **B**.

Inherent Risk Severity

The inherent risk severity of impacting the seabed heritage is considered **Low**.

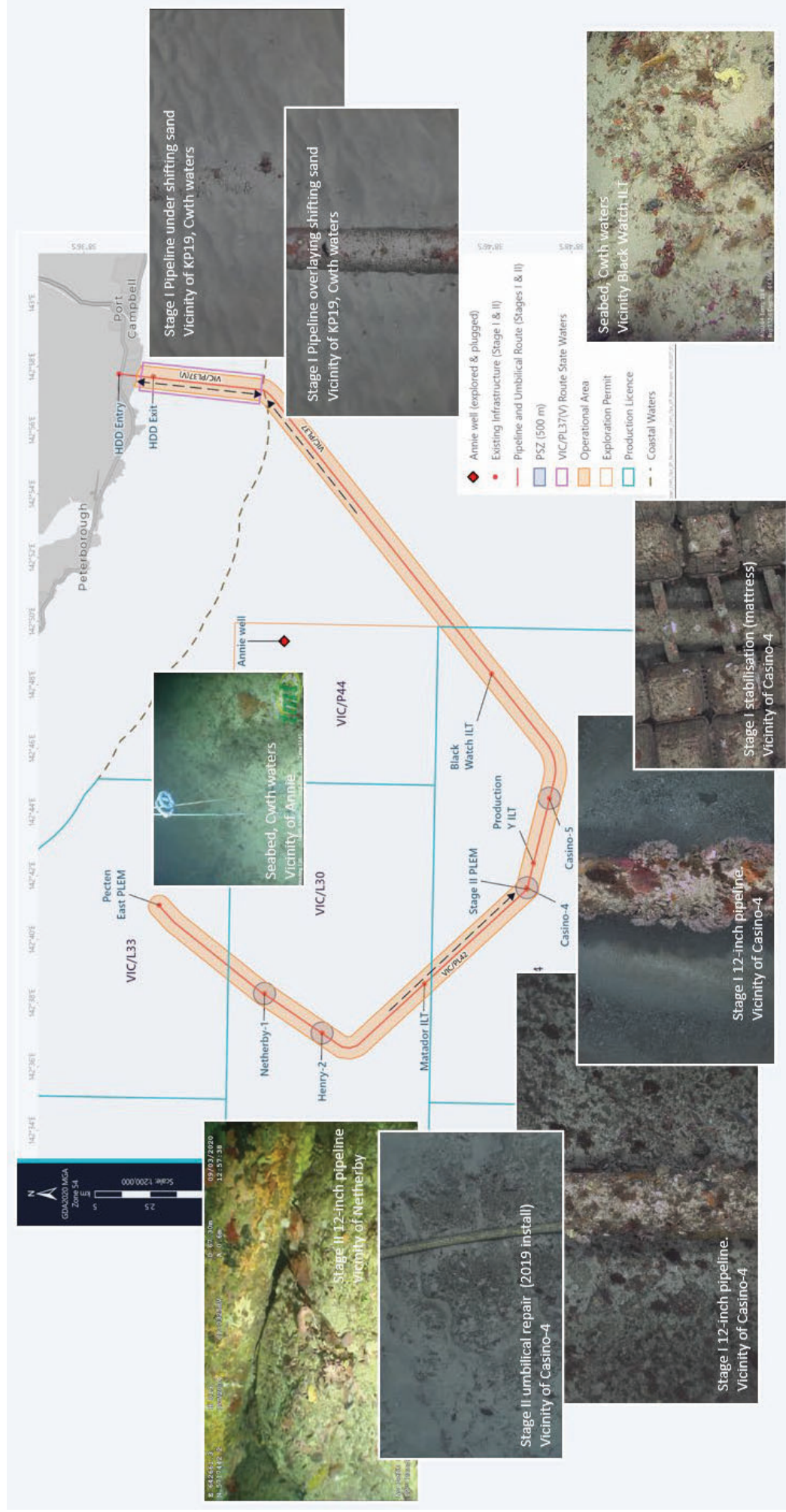


Figure 6-1: Facilities and Seabed Stills – Operational Area

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

6.3.4 Control Measures, ALARP and Acceptability Assessment

Table 6-5 provides a summary of the control measures and ALARP and Acceptability Assessment relevant to seabed disturbance.

Table 6-5: Seabed Disturbance ALARP, Control Measures and Acceptability Assessment

Seabed Disturbance	
ALARP Decision Context and Justification	ALARP Decision Context: Type A Seabed disturbance in the offshore environment is a common occurrence both nationally and internationally with well-defined industry good practice. Locally, activities like temporary anchoring and the placement of equipment on the seabed is an activity commonly undertaken by established industries within the Otway Region (e.g., shipping, fisheries, oil and gas). The area of impact, and therefore the scale of the impact, is expected to be small, and the species present associated with the seabed expected to recover. Given this, Cooper Energy believes ALARP Decision Context A should apply.
Control Measure	Source of Good Practice Control Measures
CM10: Planned Maintenance System	Critical equipment on vessels will be maintained in accordance with preventative maintenance system to ensure effective operation
CM16: Installation Procedures	Installation procedures shall be developed which take into account seabed relief, sensitive seabed features and underwater cultural heritage. Equipment will be placed according to procedures.
Impact and Risk Summary	
Residual Impact Consequence	Level 1 - Localised short-term impacts to benthic habitat with no remedial actions or recovery required.
Residual Risk Consequence	Level 1 - Localised short-term impacts to benthic habitat with no remedial actions or recovery required.
Residual Risk Likelihood	Likely. It is likely that benthic habitats will be impacted by seabed disturbance associated with the localised placement of equipment and materials.
Residual Risk Severity	Low
Demonstration of Acceptability	
Principles of ESD	Seabed disturbance is evaluated as having Level 1 risk consequence which is not considered as having the potential to result in serious or irreversible environmental damage. Consequently, no further evaluation against the principles of ESD is required.
Legislative and Conventions	No legislation or conventions relevant to these impacts
Internal Context	Relevant management system processes adopted to implement and manage hazards to ALARP include: • Risk Management (MS03) • Technical Management (MS08) • Health Safety and Environment Management (MS09) • Supply Chain and Procurement Management (MS11) • External Affairs & Stakeholder Management (MS05) Activities will be undertaken in accordance with the Implementation Strategy (Section 10).
External Context	No stakeholder objections or claims have been raised related to these impacts.
Acceptability Outcome	Acceptable

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

6.4 GHG Emissions

6.4.1 Cause of Aspect

6.4.1.1 Source of emissions

GHG emissions will be caused by the activity through the use of vessels offshore (which burn fuel), and from the production, processing, transmission and end use of hydrocarbons. GHG emissions are emitted to the atmosphere when hydrocarbons are burned, flared, vented or released as fugitive emissions either at the plant or through transmission. The activities and sources that will produce GHG emissions are outlined in Table 6-6. These include both direct emissions from the activity (i.e. the activity's scope 1) and indirect emissions originating from locations outside the scope of the EP (such as Athena Gas Plant and customer facilities).

Table 6-6: GHG emissions sources

Activity Type	Emissions Source
Offshore Operations (State and / or Commonwealth waters)	
IMR	Marine Vessels, Helicopters (contingency), Materials
Onshore Production and Use	
Routine Operations	Fuel Gas Usage (at Athena Gas Plant)
	Fugitive Emissions (at Athena Gas Plant)
	Diesel Usage for Vehicles, Generators, etc. (at Athena Gas Plant)
	Electricity Usage (at Athena Gas Plant)
	Minor other sources (e.g. petroleum-based oils)
	Gas Product Usage (Customers)
	Condensate Product Usage (Customers)
Non-routine Operations (at Athena Gas Plant)	Shutdown/Pipeline Blowdown and Restart (Fuel, Flare, Vent)
	Shutdown/Pipeline Blowdown and Restart (Electricity Use Above Baseline)

6.4.1.2 Types of emissions

GHG emissions include carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄). Under the National Greenhouse and Energy Reporting (NGER) regime, emissions are described as either Scope 1, 2 or 3, which relate to who has operational control of those emissions (Clean Energy Regulator 2021). These scopes, as they relate to the activity, are described below.

Scope 1 Emissions

GHG emissions are released as a result of burning fuel during offshore campaigns. These emissions are known as Scope 1 emissions. During day-to-day operations (i.e., subsea wells producing gas through the subsea pipeline), there are negligible Scope 1 emissions associated with the Otway Offshore Operations.

Cooper Energy has other Scope 1 emissions associated with the Otway Operations, which are outside of the activity description covered by this EP but are generated as part of the gas processing at the onshore Athena Gas Plant. Cooper Energy has direct control of, and legislated responsibility for, the emissions associated with the onshore processing of hydrocarbons.

Scope 2 Emissions

There are no scope 2 emissions associated with the Otway Offshore Operations.

Cooper Energy has other Scope 2 emissions associated with the Otway onshore Operations, which are outside of the activity description covered by this EP. Electricity used at the Athena Gas Plant, when

purchased from the grid, is generated from a mix of renewable and non-renewable sources. GHG emissions are generated in the process of making the energy that supplies the grid.

Scope 3 Emissions

Scope 3 emissions are indirect GHG emissions other than scope 2 emissions that are generated in the wider economy. They can occur as a consequence of the Otway Offshore Operations, but from sources not owned or controlled by Cooper Energy.

Scope 3 emissions are considered to be relevant under the indirect consequences provision (Section 527E) of the EPBC Act. The potential impacts of these emissions are assessed below.

Downstream Scope 3: Products sold

Once processed, Cooper Energy's gas and condensate are sold to domestic customers for various uses. Energy, including gas, is in high demand domestically (Table 6-11, external context). Once the refined products leave the Athena Gas Plant, emissions associated with the distribution and use of those products by the customer are not within Cooper Energy's control.

Upstream Scope 3: Emissions from upstream value chain such as travel, purchased products and services

Scope 3 emissions are produced by a range of activities occurring upstream in the value chain but not within Cooper Energy's direct control. The key upstream scope 3 emissions include air travel, land transport (including employee travel to and from employment) and emissions embedded in purchased materials.

6.4.1.3 Quantity of emissions

GHG emissions estimates for the above-mentioned Offshore Operations can be found in Table 6-7, and for the Onshore Production and Use can be found in Table 6-8.

Table 6-7: Cumulative GHG emissions predicted for the Offshore Operations

Emissions Source	Emissions Scope	kTCO ₂ -e
IMR (assuming 3 x 30-day campaigns over the next 5-years)		
Vessels (emissions from fuel use)	1	5.6
Helicopters (emissions from fuel use)	3	0.1
Materials (embodied emissions in steel and cement)	3	1.48
Total from Offshore Petroleum Activities		7.18

Table 6-8: GHG emissions predicted for the onshore production and use for the period 2022 to 2030

Emissions Source	Cooper Energy Emissions Scope	kTCO ₂ -e	
		Annual average	Cumulative
Routine Operations			
Fuel Gas Usage (at Athena)	1	61.7	494
Electricity Usage (at Athena)	2	1.5	12
Gas Product Usage (customers)	3	331.6	2,653
Condensate Product Usage (customers)	3	1.9	15
Total			3,174
Non-routine Operations			
Shutdown/Pipeline Blowdown and Restart (fuel, flare, vent)	1	N/A	173

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Shutdown/Pipeline Blowdown and Restart (electricity use above baseline)	2	N/A	4.6
Total			177.6
Total from Onshore Petroleum Activities			3,352

Notes (Table 6-7 & Table 6-8):

- Production emissions shown here are from PIP 800kPag case described in Section 3.5.1.
- The above emissions estimates are indicative and are not for reporting purposes.
- Estimates are expected to be in the range +/- 25%, excluding any substantial changes to emissions factors.
- Minor sources are excluded and are expected to be within the estimate range.
- Only Scope 1 GHG emissions produced by the Offshore Operations (i.e. those shown in Table 6-7) are considered direct emissions within the scope of this EP. Emissions shown in Table 6-8 including Scope 3 emissions produced by the Offshore Operations and all GHG emissions associated with the Onshore Production and Use are considered indirect emissions to this EP.

It is predicted that of the cumulative emissions from the Offshore Operations and the Onshore Production and Use (direct and indirect), <1% is contributed by the Offshore Operations (Scope 1). Further, the majority of emissions are downstream of production and processing and are associated with use of the products by the customer (i.e., Cooper Energy's Scope 3 emissions, and the customer's Scope 1), which comprises approximately 84% of cumulative direct and indirect emissions. For context, the south-east domestic gas market requires around 380 PJ of gas per year and ~4000 PJ in aggregate over the next decade (Australian Competition and Consumer Commission, 2022). The Otway offshore gas fields described within this EP are estimated to provide in the order of 2% of the south-east's near-term gas needs, over their remaining field life.

Scope 3 emissions from the activity are relevant under the indirect consequences provision (Section 527E) of the EPBC Act. Potential impacts of these emissions are assessed below.

6.4.1.4 Cooper Energy's Climate Active Organisation Carbon Neutral Certification

Since financial year 2019/20 Cooper Energy has voluntarily offset its Scope 1, Scope 2 and relevant upstream Scope 3 emissions. In June 2021, Cooper Energy received Climate Active organisational carbon neutral certification⁴. Climate Active is a rigorous, government-backed carbon neutral certification for businesses and Cooper Energy's public disclosure statements are available on the Climate Active website.

Through this voluntary process, Cooper Energy has gained a detailed understanding of its emissions profile and has introduced a real cost of carbon for business activities. Both of these aspects support emissions reduction planning across the business, including the Otway operations.

6.4.1.5 Gas Product Emissions Intensity

Cooper Energy calculates the emissions intensity of the gas it sells to customers (net of offsets associated with the Company's Climate Active organisation certification). This figure is reported publicly in annual disclosure reports (such as the Sustainability Report), and also communicated to customers to promote discussion around emissions compensation for emissions associated with distribution and combustion of gas by customers.

6.4.1.6 Reporting

Cooper Energy has voluntarily reported all Scope 1, 2 and 3 emissions via annual sustainability reports (or equivalent). These are publicly available. As part of this reporting, Cooper Energy has aligned to the Task Force on Climate Related Financial Disclosures (TCFD) principles and will seek to do so for future iterations or equivalent principles. Statutory reporting is also undertaken (Table 6-11).

6.4.2 Impact Characterisation

6.4.2.1 Impact: GHG Emissions

Greenhouse Gas Emissions

⁴ Accounting for the Company's scope 1, scope 2 and relevant scope 3 emissions.

GHGs absorb longwave radiation reflected from the earth's surface thereby trapping heat within the earth's atmosphere and contributing to the greenhouse effect. While the emissions from the Otway Offshore Operations add to the GHG load in the atmosphere resulting in global warming potential, they are small on a state, and national scale. GHG emissions created directly by the activity are predicted to be a very small contributor to Victorian (0.001% contribution) and Australian emissions (<0.001% contribution) (calculated as direct emissions occurring offshore). GHG emissions created as a direct and indirect consequence of the activities in this EP are also a minor contributor of Victorian (0.51% contribution) and national Australian emissions (0.09% contribution).

The International Panel on Climate Change (IPCC) have estimated human activities and associated GHG emissions since the pre-industrial period to present have caused between 0.8°C and 1.2°C of warming (IPCC, 2022b).

6.4.2.2 Impact: Climate Systems

The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) Working Group I was released in August 2021. The IPCC states with high confidence that many extreme heat events and global surface temperature rise would not have occurred without human influence and could be irreversible for several decades to millennia (IPCC 2021).

This is reiterated in the AR6 Synthesis Report released in March 2023, "[H]uman activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850-1900 in 2011-2020. Global greenhouse gas emissions have continued to increase over 2010-2019, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and between individuals (high confidence). Human-caused climate change is already affecting many weather and climate extremes in every region across the globe" (IPCC 2023).

According the AR6 Synthesis Report, heat extremes (including heatwaves) have become more frequent and more intense across most land regions since the 1950s while cold extremes have become less frequent and less severe. Marine heatwaves have approximately doubled in frequency since the 1980s. The frequency and intensity of heavy precipitation events have increased since the 1950s over most land areas for which observational data are sufficient for trend analysis. It is likely that the global proportion of major (Category 3–5) tropical cyclone occurrence has increased over the last four decades (IPCC 2023).

6.4.2.3 Impact: Ecosystem

Ecosystems that are particularly susceptible to adverse effects of climate change include alpine habitats, coral reefs, wetlands and coastal ecosystems, polar communities, tropical forests, temperate forests and arid and semi-arid environments (DoEE, 2019). In Australia, this includes coral reefs, alpine regions, rainforests, arid and semi-arid environments, mangroves, grasslands, temperate forests and sclerophyll forests. Future climate change (increased temperature and decreased, but more variable rainfall) has the potential to have a range of impacts on ecological factors and threaten biodiversity in the Australian Mediterranean ecosystem (CSIRO, 2017).

Redistribution and reorganisation of natural systems, driven by climate change is a major threat to biodiversity (Chapman et al., 2020). A report by Australia's Biodiversity and Climate Change Advisory Group summarises the potential impacts of climate change to marine and terrestrial species, habitats, and ecosystems across Australia (Steffen et al., 2009). The impacts to ecosystems are outlined in Table 6-9.

The State of the Environment (SoE) report is produced every 5 years by the Australian Government as a comprehensive review on the state of the Australian environment. The most recent report was released in July 2022; however, the data is from 2021. The SoE concluded that climate change was impacting the Australian environment and especially impacting various taxa (DCCEEW, 2022b). In many cases, the impacts of climate change on biodiversity are exacerbated by other pressures such as land clearing and invasive species, but in some cases, impacts can be unequivocally attributed to climate change (Hughes et al. 2019). The potential variabilities concluded from the recent SoE can be found in Table 6-10.

Extensive modelling and monitoring studies over the last twenty years provide considerable evidence that climate change is already affecting and will continue to affect species globally (Hoegh-Guldberg et al., 2018) however, these impacts are likely to be highly species-dependent and spatially variable. The most frequently observed and cited ecological responses to climate change include species distributions shifting towards the poles, upwards in elevation and shifts in phenology (Dunlop et al., 2012). Climate change may not only

change species distributions but also life-history traits such as migration patterns, reproductive seasonality and sex-ratios (Table 6-10).

Impacts of climate change such as altering temperature, rainfall patterns and fire regimes are likely to lead to changes in vegetation structures across terrestrial ecosystems (Table 6-9) within Australia (Dunlop et al., 2012). Increases in fire regimes will impact Australian ecosystems altering composition structure, habitat heterogeneity and ecosystem processes. Changes in climate variability, as well as averages, could also be important drivers of altered species interactions, both native and invasive species (Dunlop et al., 2012). Climate change could result in significant ecosystem shifts, as well as alterations to species ranges and abundances within those ecosystems (Hoegh-Guldberg et al., 2018).

Climate change has been shown to impact ecosystems through alterations such as species ranges, competition, and habitat availability. Climate change has been known to cause redistribution and reorganisation of natural systems which directly threatens biodiversity (Chapman et al., 2020). Some ecosystems are particularly susceptible to the adverse effects of climate change such as coral reefs, alpine regions, rainforests, mangroves, arid and semi-arid environments, temperate forests, and grasslands (Commonwealth Scientific and Industrial Research Organisation [CSIRO], 2020).

The Intergovernmental Panel on Climate Change (IPCC) Special Report describes impacts of warming above pre-industrial levels to key receptor groups including terrestrial ecosystems, mangroves, warm-water corals, unique and threatened systems, and arctic regions (Hoegh-Guldberg et al. 2018). These receptor groups show varying sensitivity to warming conditions, with a range of responses shown at 1°C warming; from corals suffering moderate impacts, to mangroves not showing any detectable impacts that can be attributed to climate change (Hoegh-Guldberg et al. 2018). Once warming reaches 1.5°C, all receptor groups are predicted to show impacts attributable to climate change with severity ranging from moderate impacts that are detectable and attributable to climate change (mangroves), to impacts that are severe and widespread (warm-water corals) (Hoegh-Guldberg et al. 2018). At the point where global temperature rise, due to climate change, reaches 2°C, increasing numbers of receptor groups are predicted to suffer impacts which are high to very high, and likely to be irreversible (terrestrial ecosystems, warm-water corals, unique and threatened systems, and arctic regions) (Hoegh-Guldberg et al. 2018).

Terrestrial Ecosystems

All terrestrial ecosystems are likely to be impacted to some extent by a changing climate (Table 6-9). The predicted impact of climate change on these ecosystems is highly variable, both between ecosystems and within individual ecosystems (Dunlop et al., 2012). Below is a summary of potential climate change impacts to two key terrestrial ecosystems – tropical rainforests and alpine/montane areas, where other terrestrial ecosystems can be found summarised in (Table 6-9).

Tropical Rainforests

Projections of future climate change in the wet tropics of Australia under different scenarios are outlined in various reports (McInnes 2015). It is likely that temperatures in the wet tropics will become hotter and potentially fire and cyclones will be more intense. Consequently, there is an increased probability of fires penetrating rainforest vegetation resulting in a shift from fire-sensitive vegetation to communities dominated by fire-tolerant species; and changing rainforest disturbance regime as cyclones become more intense (Hughes 2011). Changes in the timing of seasons (i.e., extended summers) could cause change in the seasonal response of plants, and alterations to species ranges and abundances (Hoegh-Guldberg et al., 2018).

Alpine/Montane Areas

Alpine systems are generally considered to be among the most vulnerable to future climate change (Hughes 2003). The extent of true alpine habitat in Australia is very small (0.15% of Australian land surface) with limited high-altitude refuge (Hughes 2003). Australian alpine regions are home to a variety of alpine vertebrates who rely on snow cover for their survival. There is evidence of a reduction in populations of dusky antechinus, broad-toothed rats, and the mountain pygmy possum. The first two species are active under the snow throughout the winter season and are therefore subject to increased predation by foxes when snow is reduced (Hughes 2003).

Marine Ecosystems

Sea surface temperatures have increased across the globe over recent decades which poses a significant threat to marine ecosystems including changes to species abundance, community structure and increased frequency and intensity of thermally induced coral bleaching events (CSIRO 2017).

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Between 1920 and 2000, sea level is estimated to have risen on average by 1.2 mm per year due to climate change (Church et al., 2006). In addition to changes in sea level, oceanic warming and stratospheric ozone depletion, the East Australian Current has increased in strength by about 20% since 1978 (Cai and Cowan 2006). Sea surface temperatures are projected to continue to increase, with estimates of warming in the Southern Tasman Sea of between 0.6°C to 0.9°C and between 0.3°C to 0.6°C elsewhere along the Australian coast by 2030 (Church et al., 2006). Sea levels will increase by 18 to 59 cm by 2100 in response to both thermal expansion and through the melting of ice sheets (Solomon et al., 2007). This will lead to some coastal inundation affecting mangroves, salt marshes and coastal freshwater wetlands. Furthermore, as CO₂ is gradually absorbed by oceans and fresh water, the water becomes more acidic, which increases the solubility of calcium carbonate, the principal component of the skeletal material in aquatic organisms (Steffen et al., 2009). Mangroves and coral reefs are two key marine ecosystems that are greatly impacted by climate change; impacts to other marine ecosystems are summarised in Table 6-9.

Mangroves

Mangrove ecosystems in Australia will face higher temperatures, increased evaporation rates and warmer oceans (McInnes 2015) as well as an associated sea level rise (Hoegh-Guldberg et al. 2018). Modelling indicates an increased likelihood of future severe and extended droughts across parts of Northern Australia (Dai 2013). Consequently, mangrove ecosystems may increase their southern range as a result of warmer temperatures. However, higher temperatures and evaporation rates, and extended droughts could lead to die-offs in Northern Australia and a change in mangrove distribution and abundance (Duke et al., 2017). Mangrove systems should cope with rising sea levels by accumulating more peat or mud which will give them the opportunity to adjust to a rising sea level (Field 1995).

Coral Reefs

Climate change has emerged as a threat to coral reefs, with temperatures of just 1°C above the long-term summer maximum for an area over 4-6 weeks being enough to cause mass coral bleaching and mortality (Baker et al., 2008, Hoegh-Guldberg 1999, Hughes et al., 2017, Spalding and Brown 2015). Coral mortality or die off following coral bleaching events can stretch across thousands of square kilometres of ocean (Gilmour et al., 2016, Hoegh-Guldberg 1999, Hughes et al., 2017). The impacts associated with a warming ocean, coupled with increasing acidification, are expected to undermine the ability of tropical coral reefs to provide habitat for fish and invertebrates, which together provide a range of ecosystem services such as food, livelihoods and coastal protection (Hoegh-Guldberg et al., 2018).

Table 6-9: Projected impacts of CO₂ rise and climate change on Australian ecosystems

Key Component of Environmental Change	Projected Impacts of Ecosystems
Coral Reefs	
CO ₂ increases leading to increased ocean acidity	Reduction in ability of calcifying organisms, such as corals, to build and maintain skeletons.
Sea surface temperature increases, leading to coral bleaching	If frequency of bleaching events exceeds recovery time, reefs will be maintained in an early successional state or be replaced by communities dominated by macroalgae.
Oceanic Systems (including planktonic systems, fisheries, sea mounts and offshore islands)	
Ocean warming	Many marine organisms are highly sensitive to small changes in average temperature (1-2°C), leading to effects on growth rates, survival, dispersal, reproduction and susceptibility to disease.
Changed circulation patterns, including increase in temperature stratification and decrease in mixing depth, and strengthening of the EAC	Distribution and productivity of marine ecosystems is heavily influenced by the timing and location of oceanic currents; currents transfer the reproductive phase of many organisms. Climate change may suppress upwelling in some areas and increase it in others, leading to shifts in location and extent of productivity zones.
Changes in ocean chemistry	Increasing CO ₂ in the atmosphere is leading to increased ocean acidity and a concomitant decrease in the availability of carbonate ions.
Estuaries and Coastal Fringe (including benthic, mangrove, saltmarsh, rocky shore, and seagrass communities)	
Sea level rise	Landward movement of some species as inundation provides suitable habitat, changes to upstream freshwater habitats will have flow-on effects to species.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Key Component of Environmental Change	Projected Impacts of Ecosystems
Increase in water temperature	Impacts on phytoplankton production will affect secondary production in benthic communities.
Savannas and Grasslands	
Elevated CO ₂	Shifts in competitive relationships between woody and grass species due to differential responses.
Increased rainfall in north and northwest regions	Increased plant growth will lead to higher fuel loads, in turn leading to fires that are more intense, frequent and occur over larger areas.
Tropical Rainforests	
Potential increases in frequency and intensity of fires	Increased probability of fires penetrating into rainforest vegetation resulting in shift from fire-sensitive vegetation to communities dominated by fire-tolerant species.
Warming and changes in rainfall patterns	Potential increases in productivity in areas where rainfall is not limiting; reduced forest cover associated with soil drying projected for some Australian forests.
Inland Waterways and Wetlands	
Reduction in precipitation, increased frequency and intensity of drought	Reduced river flows and changes in seasonality of flows.
Changes in water quality, including changes in nutrient flows, sediment, oxygen and CO ₂ concentration	May affect eutrophication levels, incidence of blue-green algal outbreaks.
Sea level rise	Saltwater intrusion into low-lying floodplains, freshwater swamps and groundwater; replacement of existing riparian vegetation by mangroves.
Arid and Semi-arid Regions	
Increasing CO ₂ coupled with drying in some regions	Interaction between CO ₂ and water supply critical, as 90% of the variance in primary production can be accounted for by annual precipitation.
Shifts in seasonality of intensity of rainfall events	Any enhanced runoff redistribution will intensify vegetation patterning and erosion cell mosaic structure in degraded areas. Changes in rainfall variability and amount will also impact on fire frequency. Dryland salinity could be affected by changes in the timing and intensity of rainfall.
Warming and drying, leading to increased frequency and intensity of fires	Reduction in patches of fire-sensitive mulga in spinifex grasslands potentially leading to landscape-wide dominance of spinifex.
Alpine and Montane Areas	
Reduction in snow cover depth and duration	Potential loss of species dependant on adequate snow cover for hibernation and protection from predators; increased establishment of plant species at higher elevations as snowpack is reduced.

Source: Modified after Steffen et al., 2009

Table 6-10: Overview of impacts of climate change to the future vulnerability of particular taxa in Australia

Taxa	Potential Vulnerability
Mammals	Terrestrial mammals are subject to ongoing population declines due to climate change and changes within habitats
Birds	There is strong evidence of population declines in threatened bird species, waterbirds and migratory birds. Various extensive and persistent impacts contribute to declines, including climate change (particularly drought) and extreme events, habitat degradation, and invasive predators.
Reptiles	Reptile species in all areas of Australia have an increasing risk of extinction. Risk of extinction was recognised as primarily related to ongoing pressure from invasive predators, but compounded by pressure from habitat modification, climate change (particularly drought) and disease.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Taxa	Potential Vulnerability
	Half of Australian freshwater turtle species are in drastic population decline due to climate change.
Amphibians	- Droughts and fires are increasing pressures within habitats that impact amphibian species. - The number of known threatened amphibian species, including those that are Critically Endangered in Australia, is increasing. Drought and fire are recognised as increasing pressures contributing to this decline.
Fish	Freshwater fish throughout Australia have more than a 50% risk of extinction in the next 20 years due to climate change and changes within freshwater habitats.
Invertebrates	- Most threatened invertebrates are suffering from largescale habitat degradation and loss of biodiversity - Changes in regional temperature, humidity and rainfall impact their distribution, development and reproduction.
Plants	- Habitat destruction is the leading cause of vulnerability within plant species. However, changes in temperature, rainfall and fire regimes are contributing threats to plant species. - Alpine ecosystems and biodiversity in Australia are particularly vulnerable to climate change that affects snow depth and the spatial and temporal extent of snow, which have all declined since the late 1950s.

Source: DCCEEW, 2022c

6.4.2.4 Impact: Socio-economic Factors

Changes to climate can impact socio-economic receptors that have values which include the ecological receptors discussed above. This can include receptors such as commercial and recreational fisheries and tourism.

The social receptors that may be impacted in the region of this activity are discussed in Section 4.4.3.

6.4.3 International and National Agreements and Frameworks Relevant to GHG Management

This section describes the relevant international and national agreements or frameworks that are relevant to GHG management, including how these environmental requirements are relevant to the Otway offshore operations.

6.4.3.1 Paris Agreement

The Paris Agreement was adopted by 196 parties at the 21st Conference of Parties (COP) in December 2015 and came into effect in November 2016. The Paris Agreement currently includes 193 participating parties, with its primary purpose to strengthen the global response toward climate change. Specifically, the Agreement seeks to substantially reduce GHG emissions to limit the global temperature increase in this century to 2°C, while pursuing efforts to limit the increase even further to 1.5°C (UNFCCC, 2020a).

The Paris Agreement is legally binding, and signatories are reviewed every five years with the submission of nationally determined contributions (NDCs). Where the Kyoto Protocol had legally binding emissions targets for the 37 developed emitting nations, the Paris Agreement has legally bound NDCs for all signatories regardless of their status of economic development.

While the Paris Agreement is legally binding, there are no penalties for countries declaring unambitious NDCs, lack of financial aid to other nations, or failing to meet a pledge once it has been made. Due to this, the success of the agreement is ultimately dependent on the leadership of the largest emitting countries.

Australia has ratified the Paris Agreement and has adopted NDCs that can be monitored and reported on as a part of the 5-year stocktake. Australia has put forward three NDCs since the ratification of the Paris Agreement with the most recent NDCs being:

- Reach net zero emissions by 2050
- Reduce Australia's GHG emissions by 43% below 2005 levels by 2030.

As gas from the Athena Gas Plant is provided to customers within Australia, which has ratified the Paris Agreement and set NDCs, GHG emissions arising from third party consumption of Otway gas are covered

and accounted for through Australia's GHG legislative frameworks and commitments to achieve net zero emissions by 2050. This includes but is not limited to the:

- *Climate Change Act 2022* (Cwth; refer to Section 6.4.3.3)
- National Greenhouse and Energy Reporting Scheme (refer to Section 6.4.3.4)
- Safeguard Mechanism (refer to Section 6.4.3.5)
- *Climate Change Act 2017* (Vic; refer to Section 6.4.3.6)

6.4.3.2 Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report

The IPCC released its sixth assessment consisting of three reports, with the most recent release being in April 2022. The three releases of the report relate to climate change and anthropogenic influence as well as deduce the impact that climate change has had on ecosystems, biodiversity, humans, and cities. The Physical Science Basis IPCC Report, released in August 2021, was the first to unequivocally relate climate change to human influences and the use of fossil fuels. Average surface temperatures have increased at a rapid rate since 1970 compared to any other 50-year period in the last 2,000 years.

6.4.3.3 Climate Change Act 2022 (Cwth)

In May 2022, the Labor government made a commitment to further reduce Australia's GHG emissions by 43% below 2005 levels before 2030 whilst reaffirming the previous government's net-zero target by 2050. This was lodged with the UNFCCC as an updated NDC as part of Australia's obligations toward the Paris Agreement. The *Climate Change Act 2022* (Cwth) legislated Australia's 2030 and 2050 emissions reduction goal in September 2022.

6.4.3.4 National Greenhouse and Energy Reporting Scheme

The NGER Scheme is a single national framework for reporting company information about GHG emissions, energy production, and energy consumption. Key NGER Scheme legislation includes the *National Greenhouse and Energy Reporting Act 2007* (Cwth; NGER Act), the National Greenhouse and Energy Reporting Regulations 2008 (Cwth), and the National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Cwth).

The NGER Act provides a single, national framework for the reporting and distribution of information related to GHG emissions, energy production and energy consumption.

6.4.3.5 Safeguard Mechanism

One of the key statutory instruments for regulating Australia's GHG emissions in line with Australia's NDCs under the Paris Agreement, is the National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015 (Cwth) (the Safeguard Mechanism) made under the NGER Act and administered by the Clean Energy Regulator. The Safeguard Mechanism was developed to ensure that Australia's largest GHG emitters keep their net emissions below an emission baseline. The Safeguard Mechanism currently applies to facilities that emit Scope 1 emissions of more than 100,000 tCO₂-e per annum.

The emissions reductions established under the Safeguard Mechanism reform (*Safeguard Mechanism [Crediting] Amendment Act 2023* [Cwth]) are designed to deliver emissions reductions consistent with Australia's Nationally Determined Contribution under the Paris Agreement (DCCEEW, 2023b).

Key elements of the Safeguard Mechanism include:

- Safeguard facilities must meet the reporting and record-keeping requirements of the NGER Act, including the Clean Energy Regulator's requirements for audits prior to baseline setting or to check compliance management
- If a safeguard facility is likely to exceed its emissions baseline, which decreases at an annual rate of 4.9% to 2030, the responsible emitter must act, including by purchasing and/or surrendering carbon credits to offset excess emissions
- Penalties for non-compliance.

6.4.3.6 Climate Change Act 2017 (Vic)

Victoria was one of the first jurisdictions in the world to legislate a net zero emissions target with the implementation of the *Climate Change Act 2017* (Vic).

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

The *Climate Change Act 2017* (Vic) provided Victoria with the legislative foundation to manage climate change risks, maximise opportunities that arise from decisive action, and drive the transition to a climate-resilient and net zero emissions economy by 2050. The Act itself:

- Establishes a long-term emissions reduction target of net zero by 2050
- Requires the Victoria Government to develop a 'climate change strategy' every 5 years, setting out how Victoria will meet the requirements and adapt to the impacts from climate change
- Establishes a system of periodic reporting to provide transparency, accountability and ensure the community stays informed.

6.4.4 Control Measures, ALARP and Acceptability Assessment

Table 6-11 provides a summary of the control measures and ALARP and Acceptability Assessment relevant to GHG Emissions.

Table 6-11: GHG Emissions -- ALARP, Control Measures and Acceptability Assessment

GHG Emissions	
ALARP Decision Context and Justification	ALARP Decision Context: Type A Impacts from GHG emissions are well understood. The potential impacts associated with Cooper Energy Activities are assessed as Low. Good practice is defined, and uncertainty is minimal. There are no conflicts with company values, no significant partner or media interests. The climate is influenced by the concentration of GHG emissions in the atmosphere. Cooper Energy has a detailed understanding of its emissions profile. Given this, Cooper Energy applies ALARP Decision Context A.
Control Measure	Source of Good Practice Control Measures
Activity Emissions (Scope 1, 2 and relevant upstream Scope 3)	
Manage	
CM24: Marine Order 97: Marine Pollution Prevention – Air Quality	Vessels will comply with Marine Orders – Part 97: Marine Pollution Prevention – Air Pollution (appropriate to vessel class) for emissions from combustion of fuel including: • Hold a current international energy efficiency certificate. • Have a Ship Energy Efficiency Management Plan (SEEMP) as per MARPOL 73/78 Annex VI.
CM25: Athena Gas Plant Fugitive Leak Detection and Repair Program	Cooper Energy undertakes periodic leak detection and repair (LDAR) fugitive emissions surveys at the Athena Gas Plant. During these surveys, minor valve and flange leaks are repaired on the spot with more significant leak repairs requiring equipment intervention and managed through the equipment maintenance program, if required.
CM26: Emissions forecast integrated with production forecast	• Production, sales and emissions forecasts are integrated within the Company's Portfolio process.
CM27: Athena Gas Plant production metering	• Metering of production through the Athena Gas Plant • Tracking of gas (and associated emissions) attributed to fuel and flare • Tracking of gas sales
CM29: Emissions Reduction Protocol	The Cooper Energy Climate Action Policy states that Cooper Energy identifies and, where practicable, implements opportunities for GHG emissions reductions within its' operations and through its' supply chain. These ambitions are operationalised via the Emissions Reduction Protocol (CMS-EN-PRO-0003), which establishes a systematic process to identify, assess and implement GHG emissions reduction opportunities across Cooper Energy's business. It sets a continual improvement

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	cycle such that new technologies and approaches can be incorporated as they are developed. The objectives of the Emissions Reduction Protocol are to: - Identify internal and external requirements relating to GHG emissions reduction - Provide a framework for identifying, assessing and implementing emissions reduction opportunities - Align emissions reduction activities with other business processes - Identify roles and responsibilities for emissions reduction activities. With respect to the Otway Operations the process establishes a Marginal Abatement Cost Curve (MACC) for Athena Gas Plant operations. The MACC is used to assess emissions reduction opportunities that have met the screening criteria. It is populated with estimated project costs and corresponding energy and emissions savings to establish key business case metrics, compare opportunities and ultimately inform capital allocation.
CM30: Cooper Energy Scope 1 and 2 carbon neutrality	Cooper Energy maintains carbon neutrality for its equity share scope 1 and scope 2 emissions associated with the Otway Offshore Activity. This is reflective of the Company's strategy which includes an intention to remain carbon neutral with respect to its scope 1, scope 2 and relevant upstream scope 3 emissions.
Review	
CM31: CEMS MS11 Supply Chain and Procurement management. Supplier Assessments (IMR Vessels).	MS11 includes provision for the assessment of supplier carbon reduction initiatives, collaboration opportunities and lower carbon emission intensive alternatives through the contractor evaluation process. The tender evaluation for the IMR vessel contracts will include an evaluation of atmospheric and GHG emissions management. The selection process for key services during offshore campaigns will include a review of opportunities for low carbon alternatives within the supply chain which allow Cooper Energy to reduce their GHG emissions associated with the activities assessed in this EP.
CM28: Monitoring and reporting of emissions (actual vs budget)	Emissions actuals vs budget, broken down by asset, are reported monthly to the Executive. Investigation and commentary is provided for any material deviation from budget, including actions if appropriate.
CM31: Pre-IMR campaign risk review (GHG emissions)	Risk reviews are standard practice for offshore campaigns. The Cooper Energy Environmental Protocol (CMS-EN-PRO-0001) describes how environmental impact and risk management, including risk assessments, is undertaken for activities including IMR activities. As part of pre-campaign planning a risk review will be undertaken to re-assess campaign environmental impacts and risks to ensure ALARP and acceptability criteria are met. The assessment of environmental impacts and risks will include a review of campaign emissions profile and management to determine whether new or additional controls are required to ensure GHG emissions are managed to ALARP and acceptable levels. The review will be undertaken within the 6-months prior to a IMR activity commencing to assess any new or updated regulatory information.
Report	
C33: NGER Scheme Reporting	Operational control-based reporting as part of the national reporting framework for greenhouse gas emissions, energy consumption and energy production to meet the objectives of the NGER Act.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Scope 3 (Use of Product) Emissions	
Manage	
CM34: Domestic customer base	All gas and condensate from the Otway operations is sold to domestic customers who are subject to Australian statutory instruments for regulating GHG emissions in line with Australia's NDCs under the Paris Agreement.
CM35: Customer engagement on emissions intensity	Cooper Energy calculates the emissions intensity of the gas it sells to customers (net of offsets associated with the Company's Climate Active certification). This figure is communicated with customers to promote discussion around compensation for emissions associated with the distribution and combustion of gas by customers.
Review	
CM36: Environment & Sustainability Risk Review	Cooper Energy's Functional Environment & Sustainability risk register considers the risk of customers becoming mis-aligned with National emissions reduction strategies and establishes controls to monitor and manage. Functional risks are owned and reviewed by Functional Managers and reported annually to the Executive.
Additional Control Measures Considered	
Use of non-hydrocarbon powered vessels	There is a lack of construction vessels that do not use hydrocarbons. Currently it would not be commercially viable to implement this measure for the activities discussed in this EP. The overall reduction in emissions (and therefore benefit) is also relatively small (estimated <1% direct and indirect emissions associated with the activity). This control has therefore been rejected; however, it will continue to be assessed where proposed via Tenders for offshore works.
Use of Autonomous underwater vehicles (AUVs) for IMR campaigns to reduce fuel.	There has been limited use of AUVs for offshore inspections in recent years. Cooper Energy typically seeks to combine inspection works with maintenance (such as replacement of equipment) which assists in the overall campaign efficiency. AUVs would not be capable of equipment replacement. This control has been rejected; however, it will continue to be assessed where proposed via Tenders for offshore works.
Electrify compression at Athena Gas Plant and power with 100% renewable power	The capital cost to electrify compression and power with 100% renewable power at Athena Gas Plant is disproportionate to the reduction in GHG emissions given the remaining life of the asset. This control has been rejected; however, it will continue to be assessed in accordance with the Emissions Reduction Protocol (CMS-EN-PRO-0003).
Consequence	Level 1. Air quality impacts are predicted to be low level and localised. Cooper Energy's GHG emissions from the activities in this EP are reduced to ALARP. GHG emissions created directly by the activity are predicted to be a very small contributor to Victorian (0.01% contribution) and Australian emissions (0.001% contribution) (calculated as direct emissions occurring offshore). GHG emissions created cumulatively as a direct and indirect consequence of the activities in this EP are also a minor contributor of Victorian (0.51% contribution) and national Australian emissions (0.09% contribution). Cooper Energy communicates the emissions intensity of its natural gas product to customers to promote discussion around scope 3 emissions compensation.
Demonstration of Acceptability	
Principles of ESD	GHG emissions associated with the activity are evaluated as having Level 1 consequence which is not considered as having the potential to result in serious or irreversible environmental damage. An assessment against the principles is presented in relation to GHG emissions given the broader ESG governance focus on this aspect.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equity considerations.	The Cooper Energy Values and Cooper Energy Management System integrates long and short-term economic, environmental, social and equity considerations, providing the framework, policies and process to guide responsible decision making and subsequent implementation.
	To assist the energy transition, ensuring clean and reliable energy in the future.	Cooper Energy provides domestic gas supply to support Australia through the energy transition, as it plays a key role into the future energy mix (e.g., firming of renewables). In addition, gas has the potential to contribute to an incremental reduction in GHG emissions by displacing more carbon intensive power generation (e.g., coal), or in hard-to-abate sectors.
	If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (precautionary principle).	Cooper Energy recognises the influence of GHG emissions on the climate and the threats associated with climate change. Though total GHG emissions from the activity are small in the context of state (0.51%) and national (0.09%) emissions, Cooper Energy is implementing a range of measures to reduce emissions from operations and compensate for residual emissions via offset initiatives.
	The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.	Cooper Energy considers health, biological diversity, productivity and ecological integrity through the implementation of CEMS, reducing impacts to ALARP and acceptable levels. This includes: • Specialist environment input and support • Environmental incidents are investigated in accordance with Cooper Energy requirements and learnings are disseminated appropriately • Maintenance of knowledge of environmental legal and statutory obligations • Environmental performance is monitored, evaluated and reported within the organisation • Cooper Energy has adopted the United Nations' definition on Sustainable Development.
	The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.	
Legislative and Conventions	As outlined in Section 6.4.3, the Otway Offshore Operations are consistent with: • The Paris Agreement (2015, United Nations Framework Convention on Climate Change (UNFCCC)) and subsequent Nationally Determined Contributions • <i>National Greenhouse and Energy Reporting Act 2017</i> (Cwth) • Safeguard Mechanism under <i>Carbon Farming Initiative Amendment Act 2014</i> (Cwth) • ACCU Scheme (formerly known as the Emissions Reduction Fund) under <i>Carbon Credits (Carbon Farming Initiative) Act 2011</i> (Cwth) • <i>Climate Change Act 2022</i> (Cwth) • <i>Climate Change Act 2017</i> (Vic) • <i>The Environment Protection Act 2017</i> (Vic)	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Internal Context	The following elements of CEMS apply: Cooper Energy's 'Climate Action Policy' outlines the Company's objective to commit to sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The Policy outlines three purpose statements: • To provide clean, reliable, and affordable energy focused on south-eastern Australia, with active participation in society's decarbonization journey. • To inspire our people to contribute to future energy solutions for our customers and our communities. • To operate in innovative and responsible ways, with an emphasis on care, shareholder value and sustainability. The Policy also identifies that Cooper Energy: • Recognises the important role of renewables and the key role gas plays in complementing and supporting the deployment of renewable technologies • Are making our contribution to a low emissions economy by prioritising Environmental, Social and Governance (ESG) with investment in offset projects and consideration of future sustainable energy projects • Identifies and, where practicable, implement opportunities for greenhouse gas emission reduction within our operations and through our supply chain • Factors carbon pricing into business decisions and commercial models • Identifies, manage and mitigate material climate change risks to our activities • Voluntarily align our climate change related disclosures, including our emissions, with the TCFD principles • Disclose Cooper Energy's governance around climate change, including: material short, medium and long-term climate-related risks and opportunities on our business, strategy and financial planning; and – the resilience of our strategy, taking into account different climate scenarios, including Paris-aligned scenarios • Aligns with our customers' sustainability and emissions reduction initiatives which will enable collaboration to address the broader challenge of reducing downstream Scope 3 emissions; and • Work with governments and stakeholders in the design of climate change regulation and policies. Cooper Energy's Risk and Sustainability Committee oversees the Company's sustainability policies and practices. High level management standards relevant to managing hazards to ALARP include: • Risk Management (MS03) • Health Safety and Environment Management (MS09) • Supply Chain and Procurement Management (MS11)
External Context	Cooper Energy and its customer base are subject to Australian statutory instruments for regulating GHG emissions in line with Australia's NDCs under the Paris Agreement. Gas demand in the local SE Australia energy market is predicted to remain strong over the coming years (ACCC, 2022). This demand relates to critical and necessary energy needs for current and next generations as the energy transition progresses. The majority of gas use within Australia relates to manufacturing and electricity generation, where gas is will continue to firm and support renewables (DIISER 2021, AEMO 2022). The AEMO report '<i>2022 Integrated Systems Plan</i>' for the National Electricity Market is described by DCCEE as Australia's roadmap to Net Zero. The report anticipates a continued critical role for gas-fired power generation for peak loads and firming through the time horizon to 2050, and describes how, over time, gas fired generation emissions will need to be offset elsewhere. Cooper Energy has already begun establishing the mechanisms for this via its offsetting initiatives. Projections for gas demand in the SE Australian market are in the region of ~380 PJ / year and ~4000 PJ in aggregate over the next decade. Gas demand under accelerated energy transition scenarios may reduce the demand; Victoria's gas

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	substitution roadmap predicts, for a rapid transition scenario, gas demand in the order of 1800 PJ in aggregate over the next decade (DELWP, 2022). Gas supplied from Cooper Energy's Otway Offshore Operations, without additional production from new fields, are projected to provide around 55 PJ aggregated gas into the SE market between 2023 and 2031, representing a small but crucial proportion of the projected domestic demand, via local, established infrastructure. During consultations with relevant persons, Cooper Energy was asked to consider offsetting emissions whilst there is still a need for gas. Cooper Energy has been asked to consider sourcing offsets locally to support local communities and businesses. For example, a business chamber in Gippsland suggested considering a more active role in the region and looking at carbon offsetting projects locally, and a shire council in the Otway area noted the community sees risk with few local benefits from the energy industry generally.
Acceptability Outcome	Acceptable

6.5 Underwater Sound Emissions

6.5.1 Cause of Aspect

Underwater sound emissions will occur as a result of the following activities:

- Geophysical surveys (State and / or Cwth waters)
- Subsea operations (State and / or Cwth waters):
 - Operations of subsea infrastructure
 - Operations of subsea pipelines
 - IMR (State and / or Cwth waters)
 - Support operations (State and / or Cwth waters):
 - Vessel operations
 - Helicopter operations

6.5.2 Aspect Characterisation

6.5.2.1 Continuous sound

Acoustic modelling

Vessels, helicopters, and subsea operations will generate sound; vessel activities represent the louder of the sources associated with the offshore activities. Cooper Energy commissioned JASCO Applied Sciences (JASCO) to undertake a modelling study of underwater sound levels associated with the planned vessel activities. When undertaking IMR activities in field, vessels utilise dynamic positioning (DP); this involves the use of multiple thrusters simultaneously, to accurately hold position whilst subsea works are underway. A vessel undertaking IMR activities in field may need to be on DP 100% of the time.

Acoustic modelling was undertaken using an activity appropriate vessel analogue positioned at a representative location for ocean condition and seabed type. To ensure representative and robust modelling, Cooper Energy identify appropriate vessel options based on prior offshore projects and expected campaign requirements. This is discussed with specialist noise modeller who identifies a suitable proxy vessel and associated sound profile.

The activity vessels have similar noise profiles to commercial vessels that operate around Australia year-round. Typical predominant frequencies of commercial shipping occur within the range of 10 Hz to 1 kHz with some frequencies reaching the tens of kHz (Southall et al, 2017). Erbe et al. (2021) identify underwater ship broadband (10 Hz – 2.6 kHz) source levels for commercial ships of 148 dB re: 1 μ Pa m to 193 dB re: 1 μ Pa m across size classes <25m to >200m. The typical vessel types for the activities within this EP are expected to have source levels around 187.6 dB re: 1 μ Pa m (for an ISV) associated with vessel broadband (10Hz-2.5kHz) acoustic energy (Jasco, 2022).

Noise propagation modelling was undertaken for the proxy activity vessels to assist in understanding the potential acoustic impact on receptors including marine mammals (cetaceans and otariid seals), turtles, and fish (including eggs and larvae). Estimated underwater acoustic levels are presented as sound pressure levels (SPL), and accumulated sound exposure levels (SEL24h) as appropriate for different noise effect criteria. Modelling at the EP stage identifies conservative noise contours on which to undertake impact assessment and identify control measures and ensure acceptability. Prior to undertaking the IMR activity this modelling will be reviewed to determine if it remains appropriate considering the specifications of the selected vessel; changes (from the accepted EP parameters) are managed via MOC This ensures that appropriate noise contours are used to determine potential spatial overlap with sensitivities and ensure that suitable mitigation measures are in place during the activity.

Connell et al. (2022) modelled the sound source levels of an Infield Support Vessel (ISV) considered to be representative, albeit conservative, of the vessel expected to be used for vessel operations (Table 6-12). The sound source modelled for the ISV under DP was 187.6 dB re 1 μ Pa m. Vessel specifications are expected to be analogous to that considered by Connell *et al.* (2022) for the ISV. The location selected are considered representative of the Otway offshore activity area for the type of activity. As such the modelling is considered appropriate to inform the impact and risk assessment for the Otway offshore activities.

Table 6-12: Sound source levels for IMR Activity

Scenario #	Scenario name	Description	Location
5	Installation (ISV) Annie EHU	Laying Pipes and umbilicals - 600m/hour (Used as a proxy for DP IMR vessel working along CHN pipeline)	38° 46' 42.4884 142° 36' 04.2804

Noise effect criteria

Different species groups perceive and respond to sound differently, and so a variety of exposure criteria for the different types of impacts and species groups are considered. The following noise effect thresholds (Table 6-13), based on current best available science, have been used in the impact and risk assessment:

- Frequency-weighted accumulated sound exposure levels (SEL_{24h}) from the NOAA Technical Guidance (NMFS 2018) for the onset of PTS and TTS in marine mammals
- Un-weighted SPL for behavioural threshold for marine mammals based on NOAA (2019)
- Frequency-weighted accumulated sound exposure levels (SEL_{24h}) from Finneran *et al.* (2017) for the onset of PTS and TTS in marine turtles
- Sound exposure guidelines for fish, fish eggs, and larvae (Popper, *et al.* 2014).

Recent Commonwealth guidance has defined “injury to blue whales” as both PTS and TTS hearing impairment, as well as any other form of physical harm arising from anthropogenic sources of underwater sound (Table 2-5).

Numerous studies on marine mammal behavioural responses to sound exposure have not resulted in consensus in the scientific community regarding the appropriate metric for assessing behavioural reactions (Connell, Koessler and McPherson 2021). The NOAA (2019) behavioural threshold for marine mammals of a SPL at 120 dB re 1 µPa is likely to represent a highly conservative threshold in relation to behavioural disturbance resulting in displacement, for context:

- The NOAA (2019) behavioural threshold was derived based on studies examining behavioural responses to drilling and dredging (NOAA 2018), referring to Malme *et al.* (1983), Malme *et al.* (1984), and Malme *et al.* (1986), which were considered in Southall *et al.* (2007). Malme *et al.* (1986) found that playback of drillship sound did not produce clear evidence of disturbance or avoidance for levels below an SPL of 110 dB re 1 µPa, however, possible avoidance occurred for exposure levels approaching 119 dB re 1 µPa. Malme *et al.* (1984) determined that measurable reactions usually consisted of rather subtle short-term changes in speed and/or heading of the whale(s) under observation.
- Previous literature reviews (e.g., Southall *et al.* (2007)) identified varying responses for most marine mammals between SPLs of 140–180 dB re 1 µPa. For low frequency whales (e.g., blue, fin, sei, southern right) the data indicated no or very limited responses at a received level of 90–120 dB re 1 µPa, with an increasing probability of avoidance and behavioural effects from 120–160 dB re 1 µPa. With regard to an exploration drilling program within the Otway Basin, advice provided by Brandon Southall to Beach Energy when asked “what, in your opinion, for this particular project, could be the sound levels which could cause effects starting at ‘response’ and ending at ‘disturbance/displacement’ for blue whales, and thus displace them from food” responded that based on studies on feeding blue whales off California the response change points were in the 130–140 dB re 1 µPa range (Beach Energy 2020).
- Beach Energy’s subsequent analysis of blue whale observations during the Otway drilling program. Beach Energy reported that of the 127 blue whales that were observed within the 3km radius management zone (where received noise levels may exceed 120 dB re 1 µPa), 55% of whales were observed moving towards the noise source, whereas 45% were observed moving away. Whale densities were similar close to the noise source as at increasing distance from the noise source. These observations were interpreted as indicating the whales were not being displaced by the activity noise (Beach Energy, 2023).
- Field observations of other species of whale also indicate a level of indifference to operating vessels; during 2023 Cooper Energy have undertaken IMR activities in the Gippsland region. Modelling indicated that noise levels of 120 dB re 1 µPa may be received at distances approximately 5.3 km from the vessel whilst on DP (Jasco Applied Sciences, 2023). Over the course of a 33-day period of in-field and in-transit activities there were approximately 435 whales sighted by marine mammal observers on board the vessel. Sightings were primarily of humpback whales undertaking their southerly migration, including adults with calves. Whales were observed at distances between 0.05 km and 6.2 km from the vessel. Behaviours

observed include fast and slow travel, milling and surface active (e.g. fin slapping and breaching), with the majority being surface active and slow travel within 3 km of the vessel (*Figure 6-2* and *Figure 6-3*). The whales that were observed were not noticeably disturbed by the underwater sound generated by the activity; this may be another indicator that the behavioural threshold for marine mammals is highly conservative.

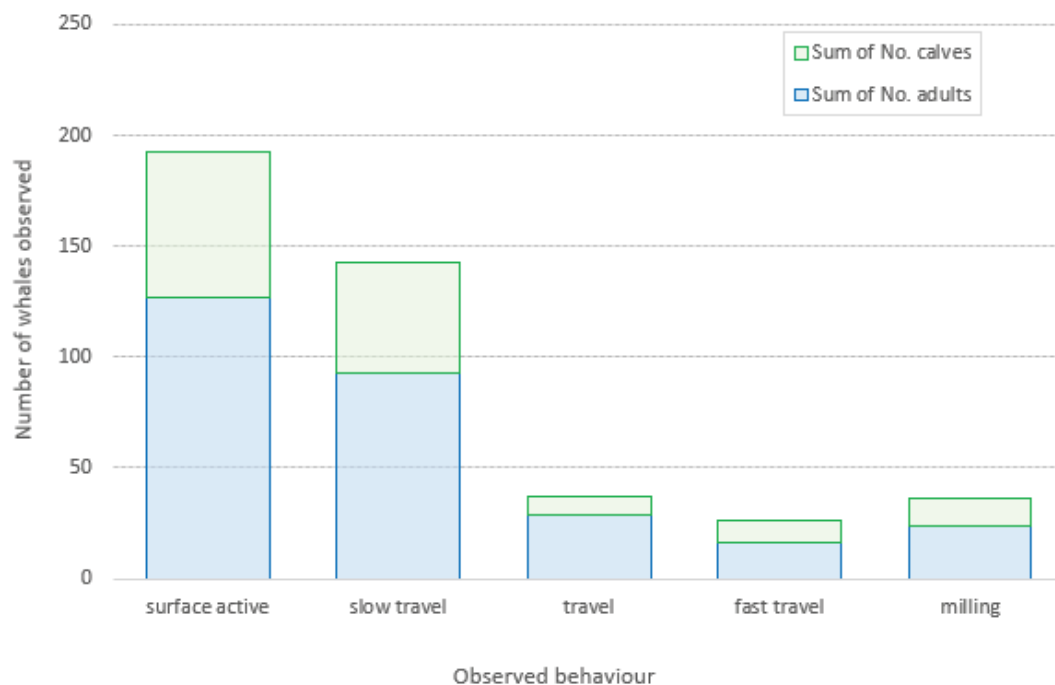


Figure 6-2: Whale observations (behaviour). Cooper Energy vessel based IMR activity. Gippsland 2023.

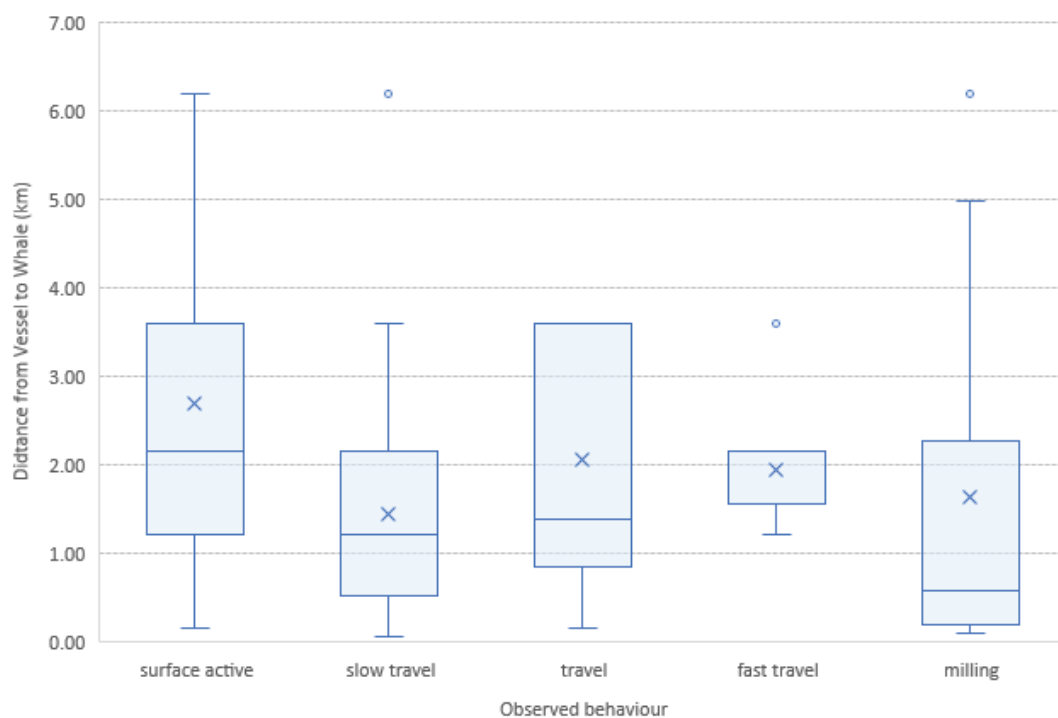


Figure 6-3: Whale observations (behaviour with distance from vessel). Cooper Energy vessel based IMR activity. Gippsland 2023.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 6-13: Noise effect criteria for continuous sound

Receptor	Behavioural	Impairment			Injury	
		Masking	Temporary threshold shift	Recoverable injury	Permanent threshold shift	Mortality or potential mortal injury
Low-frequency cetaceans	SPL: 120 dB re 1 μ Pa	N/A	SEL _{24h} : 179 dB re 1 μ Pa ² s	N/A	SEL _{24h} : 199 dB re 1 μ Pa ² s	N/A
Mid-frequency cetaceans	SPL: 120 dB re 1 μ Pa	N/A	SEL _{24h} : 178 dB re 1 μ Pa ² s	N/A	SEL _{24h} : 198 dB re 1 μ Pa ² s	N/A
High-frequency cetaceans	SPL: 120 dB re 1 μ Pa	N/A	SEL _{24h} : 153 dB re 1 μ Pa ² s	N/A	SEL _{24h} : 173 dB re 1 μ Pa ² s	N/A
Otariid seals	SPL: 120 dB re 1 μ Pa	N/A	SEL _{24h} : 199 dB re 1 μ Pa ² s	N/A	SEL _{24h} : 219 dB re 1 μ Pa ² s	N/A
Turtles	(N) High (I) Moderate (F) Low	N/A	SEL _{24h} : 200 dB re 1 μ Pa ² s	N/A	SEL _{24h} : 220 dB re 1 μ Pa ² s	N/A
Fish (no swim bladder)	(N) Moderate (I) Moderate (F) Low	(N) High (I) High (F) Moderate	(N) Moderate (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Low (I) Low (F) Low
Fish (swim bladder not involved in hearing)	(N) Moderate (I) Moderate (F) Low	(N) High (I) High (F) Moderate	(N) Moderate (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Low (I) Low (F) Low
Fish (swim bladder involved in hearing)	(N) High (I) Moderate (F) Low	(N) High (I) High (F) High	SPL: 158 dB re 1 μ Pa for 12 hours	SPL: 170 dB re 1 μ Pa for 48 hours	N/A	(N) Low (I) Low (F) Low
Fish eggs and fish larvae (also relevant to plankton)	(N) Moderate (I) Moderate (F) Low	(N) High (I) Moderate (F) Low	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Low (I) Low (F) Low

Relative chance (high, moderate, low) is given for fauna at three distances from the source (near [N] = tens of metres, intermediate [I] = hundreds of metres, and far [F] = thousands of metres).

Modelling outputs

Table 6-14 summarises the outcome of the modelling, showing the exposure criteria for PTS, TTS and behavioural responses, and the furthest modelled distances to them. Full details of the modelling can be found in Appendix 6 (Connell *et al*, 2022).

For this assessment, the PTS and TTS 24 h criteria were applied to a range of fauna whose ranges overlap the operational area. Criteria for marine mammals that may be undertaking biologically important behaviours, such as calving, foraging, resting or migration were also used, to understand the radius for TTS and PTS onset and associated likelihood of accumulated exposure; the smaller the radius, the less likely accumulated exposure approaching the 24 h threshold.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 6-14: Maximum horizontal distances (R_{max}) from the modelled scenario to reach noise effect criteria

Receptor	Behavioural	Temporary Threshold Shift	Recoverable Injury	Permanent Threshold Shift
Low-frequency cetaceans	SPL: 5.97 km	SEL _{24h} : 0.32 km	N/A	SEL _{24h} : 0.02 km
High frequency cetaceans	SPL: 5.97 km	SEL _{24h} : 0.02 km	N/A	-
Very High-frequency cetaceans	SPL: 5.97 km	SEL _{24h} : 0.24 km	N/A	SEL _{24h} : 0.03 km
Otariid seals	SPL: 5.97 km	-	N/A	-
Turtles	N/A	SEL _{24h} : 0.02 km	N/A	-
Fish	N/A	SPL (for 12h): 0.04 km	-	N/A

(-) A dash indicates the level was not reached within the limits of the modelled resolution (20 m).

6.5.2.2 Impulsive sound

Acoustic modelling

Impulsive sound will be generated by survey and positioning equipment throughout the activity.

Connell *et al.* 2022 have provided empirical estimations of the effect ranges from survey equipment (e.g., MBES, sidescan sonar, and sub-bottom profilers) and positioning equipment (ultra-short baseline; USBL). The source characteristics determined from the literature review (McPherson and Koessler 2021) and used in the subsequent impact and risk assessment are shown in Table 6-15.

Table 6-15: Positioning and survey equipment source frequencies and sound levels

Emission source	Example equipment	Source frequency range	Source sound level
USBL	Sonardyne Ranger	18–36 kHz	SPL: 204 dB re 1 μ Pa @ 1 m SEL _{ss} : 173 dB re 1 μ Pa ² s @ 1 m PK: 170 dB re 1 μ Pa @ 30 m
MBES	R2Sonic 2024 Reson SeaBat 8101	200–400 kHz	SPL: 221 dB re 1 μ Pa @ 1 m SEL _{ss} : 130 dB re 1 μ Pa ² s @ 40 m PK: 170 dB re 1 μ Pa @ 40 m
Sidescan sonar	EdgeTech 4200	70–400 kHz	SPL: 205 dB re 1 μ Pa @ 1 m SEL _{ss} : 176 dB re 1 μ Pa ² s @ 1 m PK: 210 dB re 1 μ Pa @ 1 m
Sub-bottom profiler (with boomer)	Applied Acoustics AP3000	100–1,000 Hz	SPL: 203.3 dB re 1 μ Pa @ 1 m SEL _{ss} : 172.6 dB re 1 μ Pa ² s @ 1 m
Sub-bottom profiler (with CHIRP)	Edgetech X-star system CHIRP Applied Acoustics AA301	2–16 kHz	SPL: 191.7 dB re 1 μ Pa PK: 215 dB re 1 μ Pa ² m ²

SEL_{ss} is per-pulse SEL (i.e., not an accumulated value).

Noise effect criteria

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Different species groups perceive and respond to sound differently, and so a variety of exposure criteria for the different types of impacts and species groups are considered. The following noise effect thresholds (

Table 6-16), based on current best available science, have been used in the impact and risk assessment:

- Peak pressure levels (PK) and frequency-weighted accumulated sound exposure levels (SEL_{24h}) from the US National Oceanic and Atmospheric Administration (NOAA) Technical Guidance (NMFS 2018) for the onset of PTS and TTS in marine mammals
- Marine mammal behavioural threshold based on the current NOAA (NOAA 2019) criterion for marine mammals of 160 dB re 1 µPa (SPL) for impulsive sound sources
- Peak pressure levels (PK) and frequency-weighted accumulated sound exposure levels (SEL_{24h}) from Finneran *et al.* (Finneran, *et al.* 2017) for the onset of PTS and TTS in marine turtles
- Marine turtle behavioural response threshold of 166 dB re 1 µPa (SPL) (Commonwealth of Australia 2017a) as applied by the US NMFS, along with a sound level associated with behavioural disturbance 175 dB re 1 µPa (SPL) (McCauley, *et al.* 2000)
- Sound exposure guidelines for fish, fish eggs and larvae (Popper, *et al.* 2014).

Recent Commonwealth guidance has defined “injury to Blue Whales” as both PTS and TTS hearing impairment, as well as any other form of physical harm arising from anthropogenic sources of underwater noise (Table 2-5).

Table 6-16: Noise effect criteria for impulsive sound

Receptor	Behavioural	Impairment			Injury	
		Masking	Temporary threshold shift	Recoverable injury	Permanent threshold shift	Mortality or potential mortal injury
Low-frequency cetaceans	SPL: 160 dB re 1 µPa	N/A	SEL _{24h} : 168 dB re 1 µPa ² s PK: 213 dB re 1 µPa	N/A	SEL _{24h} : 183 dB re 1 µPa ² s PK: 219 dB re 1 µPa	N/A
Mid-frequency cetaceans	SPL: 160 dB re 1 µPa	N/A	SEL _{24h} : 170 dB re 1 µPa ² s PK: 224 dB re 1 µPa	N/A	SEL _{24h} : 185 dB re 1 µPa ² s PK: 230 dB re 1 µPa	N/A
High-frequency cetaceans	SPL: 160 dB re 1 µPa	N/A	SEL _{24h} : 140 dB re 1 µPa ² s PK: 196 dB re 1 µPa	N/A	SEL _{24h} : 155 dB re 1 µPa ² s PK: 202 dB re 1 µPa	N/A
Otariid seals	SPL: 160 dB re 1 µPa	N/A	SEL _{24h} : 188 dB re 1 µPa ² s PK: 226 dB re 1 µPa	N/A	SEL _{24h} : 203 dB re 1 µPa ² s PK: 232 dB re 1 µPa	N/A
Turtles	SPL: 166 dB re 1 µPa SPL: 175 dB re 1 µPa	N/A	SEL _{24h} : 189 dB re 1 µPa ² s PK: 226 dB re 1 µPa	N/A	SEL _{24h} : 204 dB re 1 µPa ² s PK: 232 dB re 1 µPa	N/A
Fish (no swim bladder)	(N) High (I) Moderate (F) Low	(N) Low (I) Low (F) Low	SEL _{24h} : >>186 dB re 1 µPa ² s	SEL _{24h} : >216 dB re 1 µPa ² s PK: >213 dB re 1 µPa	N/A	SEL _{24h} : >219 dB re 1 µPa ² s PK: >213 dB re 1 µPa
Fish (swim bladder not involved in hearing)	(N) High (I) Moderate (F) Low	(N) Low (I) Low (F) Low	SEL _{24h} : >>186 dB re 1 µPa ² s	SEL _{24h} : 203 dB re 1 µPa ² s PK: >207 dB re 1 µPa	N/A	SEL _{24h} : 210 dB re 1 µPa ² s PK: >207 dB re 1 µPa
Fish (swim bladder involved in hearing)	(N) High (I) High (F) Moderate	(N) Low (I) Low (F) Moderate	SEL _{24h} : 186 dB re 1 µPa ² s	SEL _{24h} : 203 dB re 1 µPa ² s PK: >207 dB re 1 µPa	N/A	SEL _{24h} : 207 dB re 1 µPa ² s PK: >207 dB re 1 µPa

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Fish eggs and fish larvae (also relevant to plankton)	(N) Moderate (I) Low (F) Low	(N) Low (I) Low (F) Low	(N) Moderate (I) Low (F) Low	(N) Moderate (I) Low (F) Low	N/A	SEL _{24h} : >210 dB re 1 µPa ² s PK: >207 dB re 1 µPa

Relative risk (high, moderate, low) is given for fauna at three distances from the source (near [N] = tens of metres, intermediate [I] = hundreds of metres, and far [F] = thousands of metres)

Modelling output

Empirical estimates of the distances to thresholds were either taken from equivalent and comparable sources in literature or estimated using a simple spreading loss calculation and associated literature inputs (McPherson and Koessler 2021). The estimated maximum from any of the individual positioning or survey equipment to reach the respective noise effect criteria is summarised in Table 6-17.

Where criteria (defined in Section 0) contain weighted thresholds, unweighted estimated levels and unweighted literature values were compared to the weighted threshold as part of a conservative distance calculation (McPherson and Koessler 2021). If weighted estimates were compared to thresholds, they would be reached at closer distances than the unweighted estimates presented in Table 6-17 (McPherson and Koessler 2021).

Table 6-17: Estimated maximum horizontal distance from any equipment to reach noise effect criteria

Receptor	Behavioural	Impairment			Injury	
		Masking	Temporary threshold shift	Recoverable injury	Permanent threshold shift	Mortality or potential mortal injury
Low-frequency cetaceans	SPL: <130 m	N/A	SEL _{24h} : — PK: —	N/A	SEL _{24h} : — PK: —	N/A
Mid-frequency cetaceans	SPL: <130 m	N/A	SEL _{24h} : — PK: —	N/A	SEL _{24h} : — PK: —	N/A
High-frequency cetaceans	SPL: <130 m	N/A	SEL _{24h} : — PK: —	N/A	SEL _{24h} : — PK: —	N/A
Otariid seals	SPL: <130 m	N/A	SEL _{24h} : — PK: —	N/A	SEL _{24h} : — PK: —	N/A
Turtles	SPL: <130 m	N/A	SEL _{24h} : — PK: within metres	N/A	SEL _{24h} : — PK: within metres	N/A
Fish (no swim bladder)	N/A	N/A	SEL _{24h} : within metres	SEL _{24h} : within metres PK: within metres	N/A	SEL _{24h} : within metres PK: within metres
Fish (swim bladder not involved in hearing)	N/A	N/A	SEL _{24h} : within metres	SEL _{24h} : within metres PK: within metres	N/A	SEL _{24h} : within metres PK: within metres
Fish (swim bladder involved in hearing)	N/A	N/A	SEL _{24h} : within metres	SEL _{24h} : within metres PK: within metres	N/A	SEL _{24h} : within metres PK: within metres
Fish eggs and fish larvae (also relevant to plankton)	N/A	N/A	N/A	N/A	N/A	SEL _{24h} : within metres PK: within metres

6.5.2.3 Cumulative Noise

Section 6.5.4.3 considers ongoing Cooper Energy operations within the context of nearby titleholders who have undertaken individual assessments of their own activities, to assess the combined impact of reasonably foreseeable future projects on key receptors. The nature and scale of subsea noise presented within publicly available sources has been considered in the assessment of the potential cumulative impacts of noise in the event that nearby offshore activities were undertaken concurrently, or sequentially.

Through identifying the spatial and temporal extent of the subsea noise generating activities within the published EPs, it is possible to assess the impacts of foreseeable future projects within a suitable timeframe to align with the 5-year period of this EP. The spatial extent used for this assessment is the Otway Basin, which is considered sufficiently broad to capture cumulative impacts relevant to the key receptors. The temporal extent for this assessment is 5-years to align with the duration of this EP.

Behavioural noise contours are greater than TTS and PTS contours and therefore have been used within the Cumulative Impact assessment to reflect the greatest potential cumulative footprint of noise from the respective activities.

6.5.3 Predicted Environmental Impacts and Risks

Potential impacts and risks from underwater sound emissions are:

- Introduced continuous sound
- Introduced impulsive sound.
- Cumulative Impacts

Potential consequences associated with underwater sound emissions are:

- Change in ambient sound
- Behavioural changes to marine fauna; and
- Auditory impairment (masking, TTS, recoverable injury), or auditory injuries (mortality or potential mortal injuries, PTS) to marine fauna

6.5.4 Impact and Risk Evaluation

6.5.4.1 Impact: Introduced continuous sound

Planned activities will result in the anthropogenic generation of continuous sound. This sound within the underwater environment results in changes to the ambient sound levels and has potential consequences to marine fauna as outlined below.

Consequence: Change in Ambient Sound

Inherent Consequence Evaluation

Ambient underwater sound is the level of sound which exists in the environment without the presence of the activity. Passive acoustic monitoring commissioned by Origin from April 2012 to January 2013, 5 km offshore from the coastline east of Warrnambool, identified that ambient underwater noise in coastal areas is generally higher than further offshore, with a mean of 110 dB re 1 μ Pa and maximum of 161 dB re 1 μ Pa (Duncan *et al.*, 2013).

Underwater modelling for the activity (Connell *et al.*, 2022) indicated that sound at an SPL of 110 dB re 1 μ Pa could extend up to approximately 20 km from the source.

Given that vessel activities are relatively short term, and the localised extent of the change above an SPL of 110 dB re 1 μ Pa (approximately 20 km), the consequence of this impact has been evaluated as **Level 1**, as underwater sound will return to existing ambient levels following completion of the activity with no remedial or recovery work required.

Risk event: Behavioural Changes (Marine Mammals)

Inherent Consequence Evaluation

Acoustic modelling indicated that the (maximum radius) R_{max} from the source to SPL behavioural noise effect criteria for all marine mammals reached 5.97 km for vessel operation activities (see Scenario 5).

A summary of impacts for marine mammals with potential to be present is provided in the following sections.

Otariid Seals

The Australian fur-seal, Australian Sea-lion and the New Zealand fur-seal may occur within the behavioural EMBA. The maximum theoretical distance to the outer edge of the potential behavioural disturbance threshold was 5.97 km. In practice, seals are frequently observed offshore and around vessels; hundreds of sightings of seals were recorded near vessels over the course of the BMG Closure Project – Phase 1 offshore Gippsland in 2024, Marine mammal observers for the project reported behaviours including foraging, milling and swimming. As there is no overlap of the ensonified area with biologically important areas, the consequence to Otariid seals has been assessed as **Level 1**.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Unlikely**.

Inherent Risk Severity

The inherent risk severity of continuous underwater sounds causing behavioural changes to otariid seals is considered **Low**.

Very High frequency Cetaceans

Very high frequency cetaceans include sperm whales, beaked whales and large delphinid species such as killer whales and pilot whales. Porpoises and some species of dolphins form the group of very high-frequency cetaceans (Southall *et al.*, 2019). The PMST Report identified that very high frequency cetaceans such as bottle dolphins may occur within the area that may be affected, however no biologically important areas or behaviours were identified within this area.

The maximum distance to the behavioural threshold was 5.97 km. Impacts may include temporary avoidance of vessels when undertaking activities, however as there is no overlap of the ensonified area with biologically important areas, the consequence to very high frequency cetaceans has been assessed as **Level 2**.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Unlikely**.

Inherent Risk Severity

The inherent risk severity of continuous underwater sounds causing behavioural changes to very high frequency cetaceans is considered **Low**.

High frequency Cetaceans

The PMST Report identified several high frequency dolphin species, beaked and toothed whales within the behavioural EMBA, such as killer whales, however, no biologically important areas or behaviours were identified within this area.

The distances to the behavioural threshold ranged with a maximum of 5.97 km. Impacts may include temporary avoidance of vessels when undertaking activities, however as there is no overlap of the ensonified area with biologically important areas, the consequence to high frequency cetaceans has been assessed as **Level 2**.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Unlikely**.

Inherent Risk Severity

The inherent risk severity of continuous underwater sounds causing behavioural changes to high frequency cetaceans is considered **Low**.

Low-frequency Cetaceans

Low-frequency cetaceans include baleen whales such as sei whale, fin whale, southern right whale and blue whale. These cetaceans show seasonal distribution patterns, with their presence within the Otway basin being season specific based on the most appropriate ecological conditions for their biological important behaviours such as feeding and reproduction. A 'period' is used in this sense to describe a timeframe with an associated presence of a species. Peak period describes the time when the highest number of whales have historically been observed, with shoulder period being the preceding and subsequent months and numbers typically lower. Potential presence within the behavioural EMBA and biologically important behaviours for listed threatened low-frequency cetaceans are summarised in Table 6-18.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

The term season is used in the context of endangered whale species to define the timeframe when a HCTS or [Migration BIA](#) is more likely to be in use by southern right whales or when foraging is more likely to occur by blue whales. The Whale Disturbance Risk Management Procedure provides season specific processes to be followed in season and out of season.

The distances to the behavioural threshold had a maximum of 5.97 km for offshore vessel operations. Vessel activities are relatively short term, and will be intermittent in nature, with one anticipated every two years.

Table 6-18: Low-frequency Cetacean presence and biological important behaviours

Species	Biologically Important Behaviours	Duration of seasonal presence (including shoulder and peak periods)											
		J	F	M	A	M	J	J	A	S	O	N	D
Pygmy blue whale	Yes – Foraging (annual high use) BIAs		P	P									
Southern right whale	Yes – Migration BIA				S							S	
	Yes – Reproduction BIA							P	P				
Sei whale	No												
Fin whale	No												

S – expected shoulder period; P – Peak period

Blue Whales

A foraging BIA (annual high use) for the pygmy blue whale (PBW) extends throughout the region and overlaps the area where the behavioural criteria is reached. Suitable foraging habitat extends from southwest Western Australia to Tasmania on both the continental slope and shelf. Bathymetry influences the probability of pygmy blue whale occurrence, with the shelf break and slope being key habitats for pygmy blue whales during foraging and migration, with minor use of the deep ocean. (Ferreira et al, 2024). The CHN Operational area sits on the shelf inside ~70m water depth, and well inside the shelf break at ~200m water depth; the CHN operations are therefore inshore of the preferred habitat of foraging and migrating whales.

PBW typically occur in the region during peak foraging in February and March but can occur in the region from November through to June. Offshore activities have overlapped this period, in this region, for decades; the data collected before and during offshore activities has contributed to baseline knowledge of the region and a greater understanding of PBW occurrence and behaviour in the region. The summer period provides the most settled, and therefore most suitable weather to undertake offshore activities. Activities are typically planned to coincide with suitable weather windows but there can be other drivers such as urgent inspection or maintenance, or allocation of a particular time for maintenance down-time by the energy market operator to ensure sufficient supplies of energy for Australian homes and businesses on the east coast.

The conservation management plan (CMP) for the blue whale provides for both subspecies of blue whale i.e., the Antarctic blue whale and the pygmy blue whale, (CoA, 2015). The CMP includes several objectives and actions; the ultimate objective is for blue whale populations to recover to a level where they can be removed from the Threatened species list. Action A.2.3 within the CMP details that '*anthropogenic noise in BIAs will be managed such that any blue whale continues to utilise the area without injury and is not displaced from a foraging area*'. Displacement from a foraging area, consistent with DCCEEW guidance on key terms within the CMP is defined and discussed within Table 2-5.

Following the hierarchy of controls, where practicable the risk will be eliminated. However it is considered that the CMP and guidance on key terms rationalises that risk elimination is not practicable for all vessel activities in the south east, such as shipping, ferries, research vessels and industry vessels, most of which would have the potential to displace a whale based on typical vessel sound source levels. The guidance on key terms therefore refers to risk reduction, rather than elimination.

The CMP assesses the threat from shipping and industrial noise, including impacts from masking, injury and displacement, as a Minor consequence which is defined 'as individuals are affected but no affect at a population level'. The conservation plan details that given the behavioural impacts of noise on pygmy blue whales are largely unknown, a precautionary approach has been taken regarding assignation of possible consequences, hence even Minor consequences to individuals is considered a precautionary assessment in the CMP.

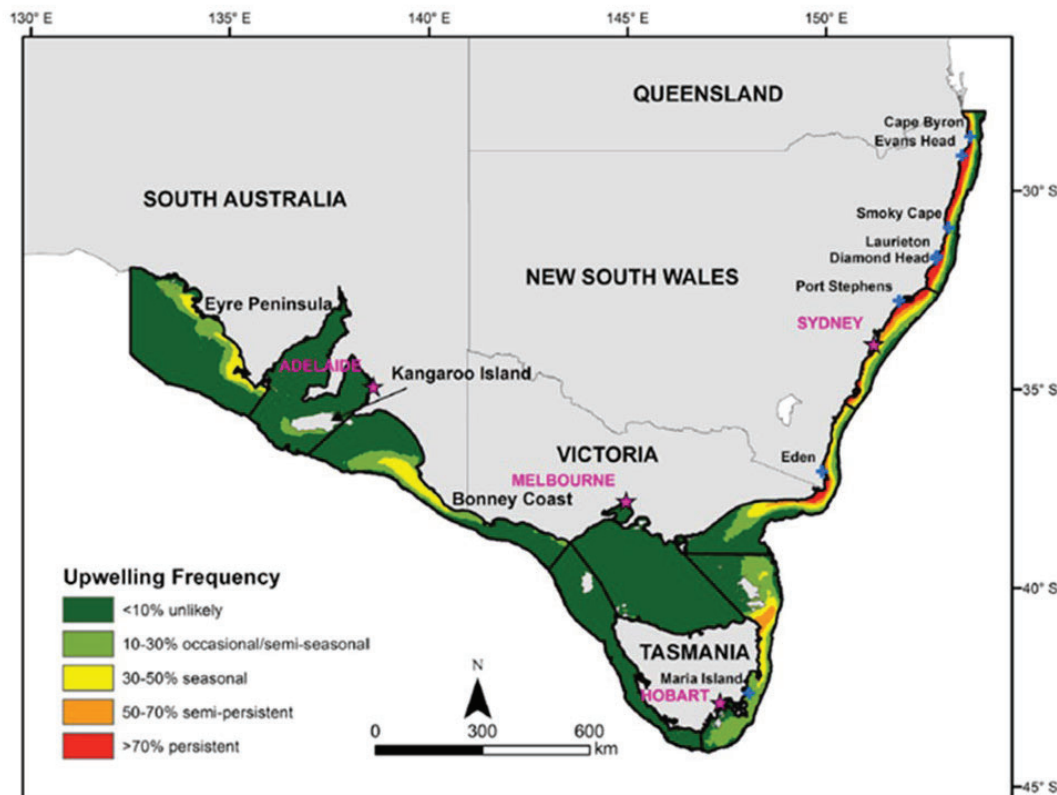
Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Given no population level effects are predicted from shipping and industry noise, it follows that Action A.2.3 may not be needed to achieve the CMP objective which is ultimately aimed at population recovery: *‘to minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list’*. Though shipping and industry has been present offshore southeast Australia (and within blue whale BIAs) for decades, estimates indicate blue whale populations are recovering (e.g., Branch *et al.* 2007; Balcazar *et al.* 2015, McCauley *et al.* 2018), albeit at a slower rate compared to other species such as the humpback whale (Noad *et al.* 2019, TSSC 2022).

The potential consequence of behavioural disturbance to blue whales has been rated as a **Level 2**, based on:

- The conservative approach taken in the sound modelling including the use of conservative criteria for disturbance and use of the furthest distances to potential impact criteria.
- The highest sound emissions are from slow moving and/or stationary vessels; with the vessel operations infrequent, typically occurring once every two years, and vessel activities limited in duration (see Section 3.2).
- The Whale Disturbance Risk Management Procedure for the activity (Table 6-20) will be followed during vessel DP operations; thus, control measures will be implemented to prevent possible behavioural impacts and ensure activities are consistent with the blue whale CMP. The monitoring radius used by within and outside a blue whale BIA is equivalent to the radius of the vessel behavioural noise contour, or otherwise the furthest extent possible by an observer.
- Upwelling and productivity in the vicinity of the activity area have been shown to be episodic, and of relatively low frequency near to Otway offshore infrastructure (Figure 6-4; Huang and Wang 2019). As such, any behavioural disturbances resulting from underwater sound is not expected to significantly impact the foraging success of any individual.
- Cumulative impacts from activities within the surrounding area on pygmy blue whale foraging are not predicted as on-going activities (Cooper Energy and other Titleholders) in the Otway are provided for within EPs which have proposed controls to avoid and manage impacts to pygmy blue whales.



Source: Huang and Wang (2019)

Figure 6-4: Upwelling Frequency in the Bass Strait

Southern Right Whale

Southern right whales migrate annually from their nursery grounds (lower latitudes) in winter, to their feeding grounds (higher latitudes) in summer. In Australia southern right whales predominantly occur in aggregations in coastal water reproductive areas where they calve and nurse their young from May to October with peak period of abundance typically in late July and August (DCCEEW, 2024). During this time the southern right whale shows preference to <10 m depth (DSEWPC, 2012, Charlton, Ward, et al., 2019) and 1 km from shore (DCCEEW, 2024a). Breeding aggregations of southern right whale occur over a wide environmental range across the entire Southern Australian coast. The recently released National Recovery Plan for the southern right whale identifies a Reproduction BIA in along the entire much of the coast of western, south and south-east Australia, including all of the Victorian coastline. This expansive delineation of the southern right whale Reproductive BIA accounts for known preferred habitat for southern right whale reproduction and nursing, and movements of whales through the area during the reproduction season; these movements are wide ranging (DCCEEW, 2024). This Reproduction BIA is also identified as habitat critical to the survival (HCTS) of the southern right whale (see Section 4.4.2).

The total number of southern right whale individuals identified in south-eastern Australia in a single whale-watching season increased from 3 in 1993 to 368 individuals in 2017 (Stamation et al., 2020). Between 1993 and 2017, a total of 37 individual female southern right whales with calves were identified. Of these, 20 were identified west of Warrnambool, with 14 individual breeding females sighted at Logans Beach, (Stamation et al., 2020). A further 21 individual females were sighted east of Warrnambool: 5 in the Great Ocean Road area, 3 near Wilson's Promontory, 10 off Flinders Island and the east coast of Tasmania, and 3 in New South Wales (Stamation et al., 2020).

The south-eastern population of southern right whales currently has only one established calving ground located at Logans Beach at Warrnambool in south-west Victoria (Watson et al., 2021). At least 93 calves were born at Logans Beach between 1980 and 2018 (Watson et al., 2021), however, there has been no increase in the average number of calves born annually at Logans Beach over the last 3 decades (Stamation et al., 2020). Southern right whales live long with late maturing and long calving intervals (Charlton, 2017), therefore a significant increase in the number of calves born at Logans Beach is not expected until 2028 based on a theoretical model (Stamation et al., 2020). There are also records of female and calve pairs using bays outside Logan Beach, along the Victorian, Tasmanian and southern NSW coastline from May to September (Stamation et al., 2020).

There is potential for overlap between vessel noise contours, and the migration BIA, depending on timing of vessel activities. There is also potential for overlap of vessel noise contours with the Reproductive BIA if activities vessel activities are necessary close to the coast over the winter months.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

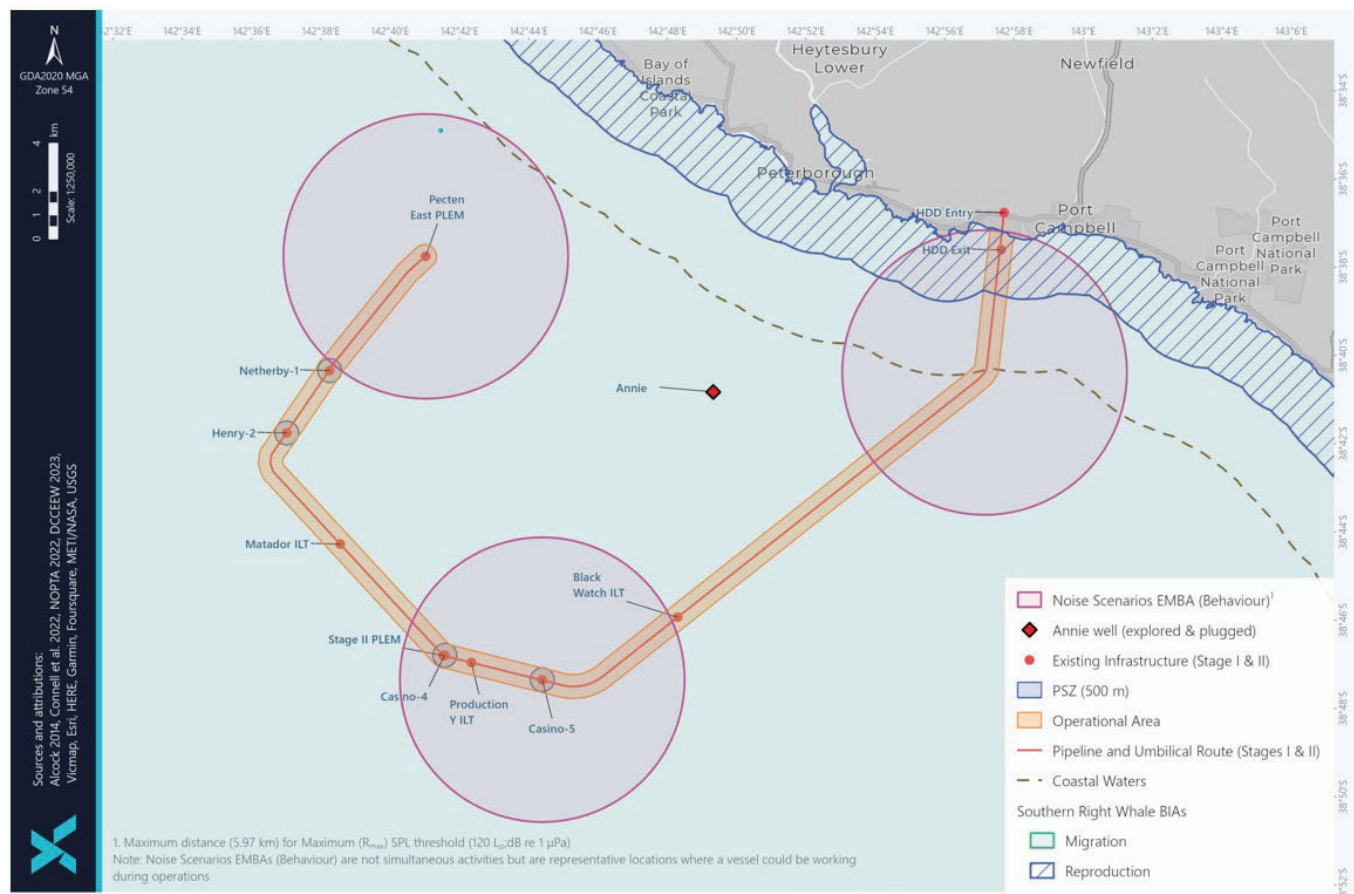


Figure 6-5 Figure 6-5 depicts the overlap of the behavioural noise EMBA with these areas at three representative locations where IMR vessels could be working in any given campaign, noting that operations are not planned to be undertaken simultaneously at these different locations. If a southern right whale is present whilst vessel activities are underway in the operational area, there is potential for behavioural impacts on reproducing, aggregating, and migrating whales within these areas.

The extent and duration of impacts will vary based on the activity being undertaken. The project activities are within the Migration BIA which encompasses much of the ocean off the southern coasts of Australia (Figure 4-7). Noise from vessels could elicit a behavioural response, such as avoidance. This could increase the energy requirements of whales at a time when their energy budgets are reduced. The activities are not of the nature or scale that could present a barrier to migration and the sound from project vessels would not be expected to significantly alter overall migration distances, which can be multiple thousands of kms during the reproduction season (Watson et al. 2021)

Potential increase in stress levels and vocal adaptation in response to increased background noise from shipping, is inferred from studies of right whales in the northern hemisphere (Parks et al. 2010; Rolland et al. 2012). Lactating females with calves in calving grounds in Australia produce infrequent vocalisations at low amplitude, inferred as a strategy to decrease the risk of acoustically alerting predators (e.g. killer whales) of their presence (DCCEEW 2022).

Disturbance to resting southern right whales nearshore (within preferred calving/resting habitat) has been reported as being triggered by close encounters with humans, including surfers (DCCEEW, 2024), with mother and calf subsequently travelling 20 km within a few hours.

As subsea noise generated by surfers is likely to be negligible, this may illustrate disturbance triggers could be both audible and/or visual (i.e. something observed as approaching close by which results in a threat response).

Within Portland Harbour, which resides the Otway region, within the designated Reproduction BIA for southern right whales and is an active hub for large international merchant ships, there are recurring sightings during the migration and reproduction seasons (ALA, 2024), indicating some level of habituation to vessels in this region. Noise levels generated by shipping activities is comparable to (and in some cases greater than) the noise generated by vessels likely to be used for the Project activities.

- Minor consequence is defined as – individuals are affected by no affect at population level

The National Recovery Plan for the southern right whale also details that given the behavioural impacts of noise on southern right whales are largely unknown, a precautionary approach has been taken regarding assignment of possible consequences.

Southern right whales are considered particularly vulnerable to disturbance whilst nursing and resting (DCCEEW, 2024); preferred habitat for these behaviours is in water depths < 10 m and < 1 km from the shore. In the unlikely event that southern right whales are present during vessel operations, the highly mobile migratory species, which travel thousands of kilometres between habitats used for essential life functions, there is a risk that individuals may avoid the area where the behavioural disturbance criteria are reached. However, given their mobility, this is unlikely to result in stopping their movements through the migration BIA, or to/from the reproduction BIA including coastal aggregation areas.

The potential consequence to southern right whales has been rated as **Level 2**, based on:

- The conservative approach taken in the sound modelling and use of the furthest distances to impact criteria being used.
- The National Recovery Plan for the southern right whale (DCCEEW, 2024) identifies shipping noise as a threat that is classed as a minor consequence which is defined as individuals are affected but no affect at a population level.
- The highest sound emissions within the activity are from slow moving and/or stationary vessels on DP; with the vessel operations infrequent, typically occurring once every two years, and vessel activities limited in duration (see Section 3.2).
- PTS and TTS impacts are limited to very close proximity to vessels (0.02 km for PTS, 0.32 km for TTS) and are based on 24-hour exposure. It is not credible to expect that individuals would remain within these distances of an operating vessel for a long enough duration to sustain PTS or TTS impacts.
- The Offshore Victoria Whale Disturbance Risk Management Procedure for the activity (Table 6-20) will be followed during the vessel operation; control measures will be implemented to prevent behavioural impacts and ensure activities are consistent with the southern right whale National Recovery Plan. The procedure requires consideration of avoidance of Habitat Critical to the Survival of southern right whales during peak sensitive seasons at the IMR campaign planning stage, and the implementation of control measures including whale observation and safe shutdown protocols to avoid disturbance. The monitoring radius used within and outside the species' BIA is equivalent to the radius of the vessel behavioural noise contour, or otherwise the furthest extent possible by an observer.
- The largest areas of potential impact (behavioural disturbance) from the activity is a small percentage of the migration and reproduction BIAs for the southern right whale (Figure 6-5 and Figure 4-7). Hence the risk of disturbance is limited to a very localised area around the activity would not be expected to prevent migration to, from or through the extensive Reproduction and Migratory BIAs.
- Southern right whales are a highly mobile migratory species that travel thousands of kilometres between habitats used for essential life functions (DCCEW, 2024)). Within the migration BIA whales are highly dispersed and through this area, may reach and exit the coastline (reproduction BIA) along different trajectories from one breeding cycle to another. Along the Australian coast, individual southern right whales use widely separated coastal areas (200–1,500 km apart) within a season, indicating substantial coast-wide movement. The longest movements are undertaken by non-calving whales, though calving whales have also been recorded at locations up to 700 km apart within a single season (DCCEW, 2024). The risk of southern right whale individuals avoiding the operational area is not expected to result in population level impacts because of the limited spatial area compared to the total reproduction, aggregation and migration BIA overlapped by the behavioural EMBA.

Other Low-frequency Cetaceans

The EPBC PMST report identified the presence of several additional low-frequency cetacean species within the areas that may be impacted by sound, including the fin whale (vulnerable and migratory) and sei whale (vulnerable and migratory).

Sei whales are primarily found in deep water oceanic habitats and are thought to complete long annual seasonal migrations from subpolar summer feeding grounds to lower latitude winter breeding grounds (TSSC 2015a). In Australian waters, sei whales have been infrequently recorded off Tasmania, New South Wales, Queensland, the Great Australian Bight, Northern Territory and Western Australia (TSSC 2015a). The conservation advice for sei whales assesses the threat of anthropogenic noise and acoustic disturbance as minor, with the extent over which the threat may operate as moderate-large (TSSC 2015a). No specific management action for managing underwater sound emissions is defined in the conservation advice.

Fin whales are generally thought to undertake long annual migrations from higher latitude summer feeding grounds to lower latitude winter breeding grounds; however, the full extent of their distribution in Australian waters is uncertain (TSSC 2015b). The conservation advice for sei whales assesses the threat of anthropogenic noise and acoustic disturbance as minor, with the extent over which the threat may operate as moderate-large (TSSC 2015b). No specific management action for managing underwater sound emissions is defined in the conservation advice.

Given the relatively short duration of activities, and localised extent of potential behavioural changes the consequence of this risk has been evaluated as **Level 2**, as underwater sound may result in localised short-term impacts to species of conservation value not affecting local ecosystem function.

Inherent Likelihood

The area of potential behavioural impact from the activity is a relatively small percentage (~0.31%) of the PBW Foraging (annual high use area) BIA (35,627 km²) (assuming the scenario of an IMR vessel at Casino-5). Historical sightings records indicate the majority of blue whales are observed further offshore than the CHN infrastructure, in deeper waters towards the shelf (Figure 6-6), though there are also some sightings closer to shore. Blue whales are observed as travelling large distances over short time-frames whilst migrating and foraging (Owen *et al.* 2016, Moller *et al.* 2020); any displacement from a very localised area around a vessel on DP would not be expected to impact on a whales overall foraging success in the region. Consistent with the CMP assessment of industry and vessel noise, no population level effects are predicted.

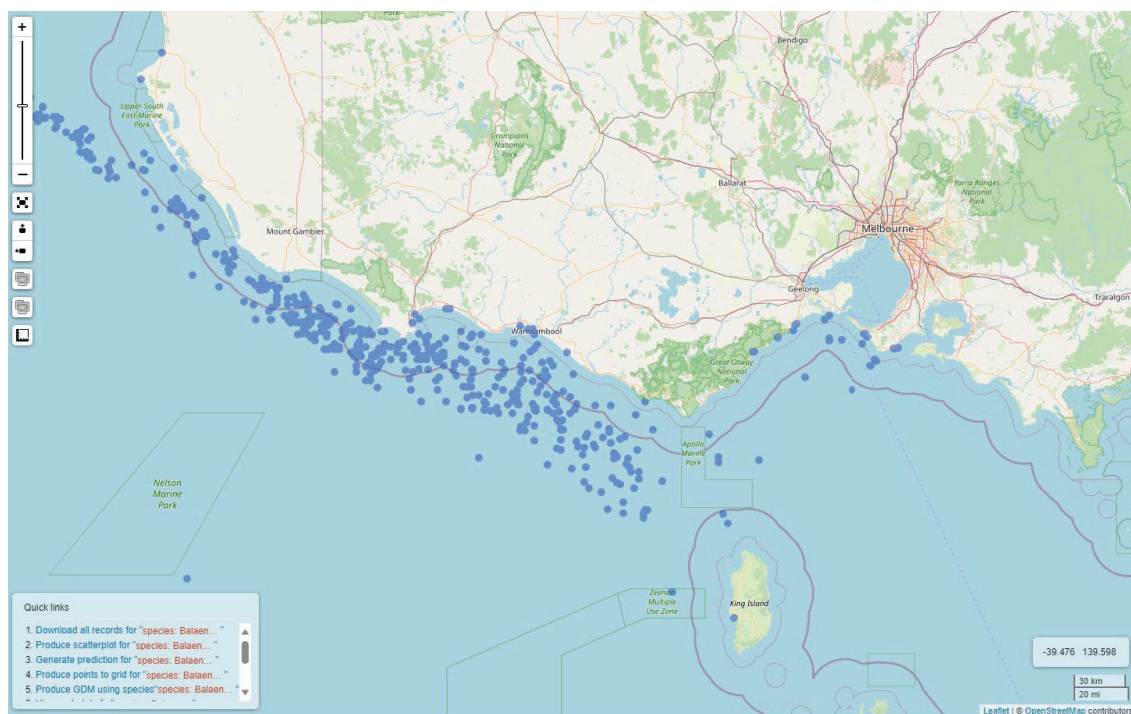


Figure 6-6: Historical blue whale sightings. Otway. Source: Atlas of Living Australia. Accessed December 2023.

The area of potential impact is small in comparison to the total area of either the migratory or reproductive BIA (Figure 6-5). Within the migratory BIA, southern right whales are highly dispersed, and travel great distances; whales travelling within this area would not be expected with be prevented, or significantly impeded in undertaking biologically important behaviours given the nature and scale of the noise from the activity. Within the reproductive BIA, southern whales preferred habitat for calving and nursing their young is shallow water (<10m) within 1km of the coastline. There is potential for overlap of noise from the vessel and these areas in the event IMR is required in shallow waters adjacent Port Campbell. Inspection frequency is typically low (~5yr intervals). The coastal waters adjacent Port Campbell are within the Reproductive BIA and have been previously identified as an emerging aggregation area, numbers of whales observed at Port Campbell are small; high use aggregation areas are well established to the west at Warrnambool and Logans beach (DSEWPac 2012a, DCCEEW, 2022).

The inherent likelihood of the consequence (behavioural change) occurring is considered **Possible**, given the overlap with the foraging BIA for the pygmy blue whale and range for the southern right whale.

Inherent Risk Severity

The inherent risk severity of continuous underwater sounds causing behavioural changes to low frequency cetaceans is considered **Moderate**.

Risk event: TTS and PTS (Marine Mammals)

Inherent Consequence Evaluation

Acoustic modelling indicated:

- The R_{max} from the source to the PTS SEL_{24h} noise effect criteria were 0.02 km, N/A and 0.03 km for the low-frequency, mid-frequency and high-frequency cetaceans respectively (Table 6-14 Table 6-14).
- The R_{max} from the source to the TTS SEL_{24h} noise effect criteria were 0.32 km, 0.02 km, 0.24 km for the low-frequency, mid-frequency, and high-frequency cetaceans respectively (Table 6-14).

The SEL_{24h} is a cumulative metric that assumes a receptor is consistently exposed to the relevant noise effect criteria for a 24-hour period. This would require the same individual animal to remain within ~20 to 80 m of the vessel at roughly the same depth, for at least a 24-hour period, before PTS auditory injury may occur, or within 20 m to 320 m of the noise source for at least a 24-hour period before TTS auditory impairments may occur.

No BIAs and/or biologically important behaviours for mid or high frequency cetaceans were identified in range of possible PTS or TTS associated with the activity. Given that most cetaceans species* (if present) are expected to be transitory through the area, the risk of auditory injury (PTS and TTS) is not considered credible and has not been evaluated further for these species.

*The subject of likelihood of either PTS or TTS onset is assessed further below for low frequency cetacean species, including the southern right whale and pygmy blue whale, which have BIAs that do overlap the activity, and which are identified as undertaking biologically important behaviours in the region.

Blue Whales

A foraging BIA for the PBW (annual high use) overlaps the area where the PTS and TTS criteria could be reached during IMR vessel operations. PBW more frequently occur during peak foraging in February and March, but also occur (typically at lower frequency) from November through to June. There is potentially an overlap between PBW occurrence and vessel operations timing and location.

Though activities may overlap with foraging blue whales, the risk of PTS or TTS are not considered plausible for the following reasons:

- The conservative approach taken in the sound modelling and use of the furthest distances to impact criteria being used.
- TTS and PTS values do not incorporate animal movement and therefore it is highly unlikely an animal would be exposed within these ranges over a continuous 24 hr period. It is also unlikely for the noise to be maintained constantly at the high rate as vessel operations and oceanographic conditions (and corresponding noise levels) vary over a 24-hr period.
- Blue whale foraging ranges are expansive (e.g., Möller *et al.* 2020), extending throughout Otway shelf waters, however foraging behaviours are dependent upon availability of food sources (e.g., patches of krill), which are not uniformly distributed. Primary productivity is linked to episodic upwelling systems, and the area where the Otway offshore assets are located has a low frequency of upwelling (Huang and Wang, 2019), hence fewer and smaller foraging opportunities. A blue whale which may occur in the vicinity of the vessel operation would be expected to be moving, and not stationary for long periods.
- At any one time, the area of potential impact would be up to 0.32 km² which equates to <0.0001% of the PBW Foraging (annual high use area) BIA (35,627 km²) (assuming the scenario of an IMR vessel at Casino-5). Blue whales migrate, forage and move throughout the region; individuals would not be exposed to activity noise for long enough and close enough for TTS onset. Blue whales have been recorded swimming at mean speeds of 2.8 km/hr +/- 2.2 km/hr whilst migrating and foraging (Owen, Jenner & Jenner 2016) or faster (Möller *et al.* 2020). Accounting for swimming speeds across this range, a whale would be expected to move through any TTS zone associated with the project well before TTS onset.
- The area where injury due to accumulated noise exposure is possible is very small in the context of the species range and behaviour. The largest radius for potential injury relates to a stationary or slow-moving vessel with a constantly variable TTS contour up to 0.32 km (Scenario 5). The typical variation in the TTS contour alone reduces the potential for accumulated exposure.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

- A type of foraging behaviour (observed in tagged blue whales) involving area restricted searches was reported by Owen et. al. 2016 as occurring out to the 1000 m isobath; over a 24h period, area restricted searches occurred over an area of 220 km². The maximum project TTS contours cover an area of 0.32 km². Therefore, area restricted searches, if any, could be expected to occur well in excess of any project TTS contour, and would preclude TTS onset.
- If whales were to interrupt their foraging within the TTS zone to feed on a discrete patch of krill for >24 hours, the movement of plankton (and therefore krill) with the currents would move the feeding zone passively through the TTS zone before TTS onset. Minimum average currents in the Operational Area are around 0.15 m/s in May (RPS 2019a). A discrete patch of krill moving with the plankton (and therefore the current) would move at 540 m/h, moving through the TTS zone well before TTS onset.
- Injury prevention actions will be implemented in line with (or in exceedance of) relevant regulatory requirements (Table 6-20). The application of the regulatory rulesets, which apply caution zones and require the minimisation of noise within those zones, will also reduce the possibility of a whale being exposed to DP noise for >24h.
- Recent activities within the Otway have overlapped pygmy blue whale foraging periods and blue whales were observed during the activity. Reported behaviours were in line with published information on foraging behaviours and movements described above, that is, blue whales were not stationary for extended periods of time, or significantly restricted in their range, and were never considered to be at risk of TTS (MMO observation data, comms Beach Energy, 2022).

The evidence suggests that the presence of pygmy blue whales for extended (≥24 hour) periods, and consistently within close proximity (<0.77 km) to the vessel, is not plausible. Therefore, the risk of auditory impairment or injury to marine mammals has not been evaluated further.

Inherent Likelihood

Not applicable.

Inherent Risk Severity

Not applicable.

Southern Right Whale

Southern right whales migrate annually from their nursery grounds (lower latitudes) in winter, to their feeding grounds (higher latitudes) in summer. The Otway offshore assets and related activities overlap the migration BIA.

During IMR campaigns, there is potential for overlap of vessel noise contours with the emerging aggregation area at Port Campbell, therefore, in the event that a southern right whale is present in the near vicinity of the IMR vessel, there is potential for TTS impacts to occur.

The risks of PTS or TTS are not considered plausible for the following reasons:

- The conservative approach taken in the sound modelling and use of the furthest distances to impact criteria being used.
- If southern right whales are present whilst vessel operations are being undertaken, the area where injury due to accumulated noise exposure is possible is very small in the context of the species range and behaviour. The largest area of potential TTS impact within the southern right whale migration BIA is small which equates to a negligible proportion of the migration BIA.
- PTS and TTS values do not incorporate animal movements. Southern right whales are highly mobile species and are known to move throughout the region. The longest movements are undertaken by non-calving whales, though calving whales have also been recorded at locations up to 700 km apart within a single season (DSEWPac, 2012a). Furthermore, it is also unlikely for the noise to be maintained constantly at the high rate as vessel operations and oceanographic conditions (and corresponding noise levels) vary over a 24-hr period, reducing the potential for an animal to be exposed within these ranges over a continuous 24 hr period if present within the area.
- The Whale Disturbance Risk Management Procedure for the activity (Table 6-20) will be followed during the vessel operation; thus, control measures will be implemented to prevent possible PTS and TTS impacts and ensure activities are consistent with the southern right whale CMP. The procedure requires consideration of avoidance of Habitat Critical to the Survival for SWR during peak sensitive

seasons for SRW at the IMR campaign planning stage, and the implementation of whale observation and safe shutdown protocols to avoid disturbance.

- Injury prevention actions will be implemented in line with (or in exceedance of) relevant regulatory requirements (Table 6-20). The application of the regulatory rulesets, which apply caution zones and require the minimisation of noise within those zones, will also reduce the possibility of a whale being exposed to DP noise for >24h.

The evidence suggests that in relation to the presence of southern right whales for extended (≥ 24 hour) periods, consistently within close proximity (< 0.32 km) to a vessel, is not plausible. Therefore, the risk of auditory impairment or injury to southern right whales has not been evaluated further.

Inherent Likelihood

Not applicable.

Inherent Risk Severity

Not applicable.

Risk Event: Behavioural Changes (Turtles)

Inherent Consequence Evaluation

Continuous sound sources have been identified as high chance of causing behavioural disturbance to turtles within the near (tens of metres), and a moderate chance within the intermediate (hundreds of metres), vicinity of a sound (Table 6-13). This risk reduces to low chance within the far (thousands of metres) vicinity of a sound (Table 6-13).

The PMST report for the operational area, identifies that marine turtle species listed as threatened and / or migratory under the EPBC Act have the potential to be present, including:

- Loggerhead turtle, leatherback turtle (endangered, migratory)
- Green turtle (vulnerable, migratory).

No BIAs or critical habitat occur within the predicted ensonified area for behavioural changes for marine turtles.

The Recovery Plan for Marine Turtles in Australia (CoA, 2017) identifies noise interference as a threat to turtles. It details that exposure to chronic (continuous) loud noise in the marine environment may lead to avoidance of important habitat.

The extent of the area of high to moderate chance of impact is predicted to be within close proximity of the vessel for the duration of IMR activities. The severity is assessed as **Level 1** and acceptable based on:

- The Recovery Plan for Marine Turtles in Australia (CoA, 2017) details that exposure to chronic (continuous) loud noise in the marine environment may lead to avoidance of important habitat and no marine turtle important habits are located within the area that maybe impacted.
- Avoidance behaviour may occur within the operational area where no marine turtle important habits are located.
- Low numbers of marine turtles are predicted in the operational area and therefore impacts would be limited to a small number of individuals.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Unlikely**.

Inherent Risk Severity

The inherent risk severity of continuous underwater sounds causing behavioural changes to turtles is considered **Low**.

Risk Event: TTS and PTS (Turtles)

Inherent Consequence Evaluation

Acoustic modelling indicated that the R_{max} from the source to the TTS SEL_{24h} noise effect criteria reached 0.02 km for turtles and did not reach the PTS SEL_{24h} noise effect criteria (Table 6-14).

Note that the SEL_{24h} is a cumulative metric that assumes a receptor is consistently exposed to the relevant noise effect criteria for a 24-hour period. Specifically for marine turtles, this requires them to remain within

~20 m of the noise generating activity for at least a 24-hour period before TTS auditory impairments may occur. Given that marine turtles (if present) are expected to be transitory through the area, the risk of auditory impairment is not considered credible, and has not been evaluated further.

Inherent Likelihood

Not applicable.

Inherent Risk Severity

Not applicable

Risk Event: Behavioural changes (Fish including eggs and Larvae)

Inherent Consequence Evaluation

Continuous sound sources have been identified as medium risk of causing behavioural disturbance to fish with no swim bladders, or those with bladders not involved in hearing, or to fish eggs or larvae, within the near (tens of metres) and intermediate (hundreds of metres) vicinity of a sound (Table 6-13). Continuous sound sources have been identified as high chance of causing behavioural disturbance to fish with swim bladders involved in hearing within the near (tens of metres), and a medium chance within the intermediate (hundreds of metres) vicinity of a sound (Table 6-13).

The operational area is within a distribution BIA for the great white shark, though no habitat critical to the survival of the species or behaviour are identified. The Recovery Plan for the White Shark (DSWEPC, 2015) does not identify anthropogenic noise as a threat to the species.

The operational area is located in the same region of the ocean through which short-finned eels migrate, through the Bass Strait to the Coral Sea off the north-east coast of Australia (Koster et al. 2021). A study on anguillid eels under experimental conditions shows that acoustic stimuli can induce behavioural avoidance (increased swimming, speed and movements away from the source) in some European eel and river lamprey (Deleau et al., 2020). Studies of sand eels revealed minor reactions to seismic shootings (Popper et al., 2014). The Otway Offshore Operations will result in temporary noise within the open ocean; the main contributing sources are the thrusters of vessels which are contracted to complete IMR works for discrete periods of time. Marine fauna observations and subsea footage from Cooper Energy's offshore campaigns, shows fish and other marine animals continue to utilise the area proximal to vessels while thrusters are in use. During oceanic life stages, eels disperse widely and migrate at varying rates (Koster et al. 2021). Considering the localised area of activity associated with the Otway Offshore Operations compared to the expansive oceanic migratory pathway of eels, any exposure to noise from the activity would be fleeting, and is not expected to result in discernible impacts to short-finned eel migratory outcomes.

The operational area overlaps with activity for several managed commercial fisheries. However, given that behavioural disturbances to fish are expected only up to hundreds of metres of the vicinity of a sound (Table 6-13), and that this is within the exclusion zones for the ISV, the chance of indirectly impacting commercial fisheries from underwater sound emissions is low.

Given the relatively short duration, and localised extent of potential behavioural changes (e.g., up to hundreds of metres from the source), the consequence of this risk has been evaluated as **Level 2**, as underwater sound may result in localised short-term impacts to species of conservation value not affecting local ecosystem function.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Unlikely**.

Inherent Risk Severity

The inherent risk severity of continuous underwater sounds causing behavioural changes to fish is considered **Low**.

Risk Event: Masking, TTS, Recoverable Injury, Mortality or Potential Mortal Injury (Fish including eggs and Larvae)

Inherent Consequence Evaluation

Sound produced by vessel operations reach the sound levels associated with physiological effects and TTS for some fish species in close proximity to the sound sources (40 m), but in order for the thresholds to be exceeded, the fish must remain at those distances for 12 h. Given that fish are expected to be transitory through the area, the risk of auditory impairment is not considered credible, and has not been evaluated further.

Continuous sound sources have been identified as a moderate to high risk of causing masking within the near (tens of metres) and intermediate (hundreds of metres) vicinity of a sound source for all fish groups (Table 6-13). As identified in Section 6.5.4.1, some threatened and/or migratory species, have been identified within the predicted ensonified area for masking.

Given the relatively short duration, and localised extent of impacts, the consequence of this risk has been evaluated as **Level 2**, as underwater sound may result in localised short-term impacts to species of conservation value not affecting local ecosystem function.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Unlikely**.

Inherent Risk Severity

The inherent risk severity of continuous underwater sounds causing physical impacts to fish is considered **Low**.

6.5.4.2 Impact: Introduced impulsive sound

Impacts: Change in Ambient Sound

Inherent Consequence Evaluation

Ambient underwater sound is the level of sound which exists in the environment without the presence of the activity. Passive acoustic monitoring commissioned by Origin from April 2012 to January 2013, 5 km offshore from the coastline east of Warrnambool, identified that ambient underwater noise in coastal areas is generally higher than further offshore, with a mean of 110 dB re 1 µPa and maximum of 161 dB re 1 µPa (Duncan *et al.*, 2013).

Empirical estimates of impulsive underwater sounds associated with the activity (McPherson and Koessler 2021) indicated that sounds may extend up to ~130 m from the source (

Table 6-16).

Given the infrequent and short duration (e.g., hours to days) of use of any of the positioning or survey equipment, and the very localised extent of change (e.g., up to ~130 m), the consequence of this impact has been evaluated as **Level 1**, as underwater sound will return to existing ambient levels following completion of the activity with no remedial or recovery work required.

Risk Event: Behavioural Changes (Marine Mammals)

Inherent Consequence Evaluation

Empirical estimates indicated that the maximum distance from an equipment sound source to the SPL behavioural noise effect criteria for all marine mammals was <130 m (

Table 6-16). This distance was associated with the use of sidescan sonar with a highly directional source output beam pattern (McPherson and Koessler 2021). Other equipment was predicted to have smaller exposure areas (e.g., 36 m from positioning equipment, <10 m from MBES, and <12 m for sub-bottom profilers) (McPherson and Koessler 2021).

The PMST report for the operational area, identifies that several marine mammal species listed as threatened and/or migratory under the EPBC Act have the potential to be present, including:

- Australian sea-lion (endangered, marine)
- Sei whale (vulnerable, migratory)
- Blue whale (endangered, migratory)
- Fin whale (vulnerable, migratory)
- Southern right whale (endangered, migratory)

In addition, a foraging BIA for the pygmy blue whale, and the migration BIA for the southern right whale also overlaps with the predicted ensonified area for behavioural disturbance.

Given the infrequent and short duration (e.g., hours to days) of use of any of the positioning or survey equipment, and the very limited spatial area (e.g., up to ~130 m) of exposure to impulsive sounds above behavioural thresholds, the consequence of this risk event has been evaluated as **Level 2**, as underwater sound may result in localised short-term impacts to species of conservation value not affecting local

ecosystem function. The risk of behavioural change to migrating southern right whale individuals within 130 m of temporarily operated equipment is not expected to result in population level impacts

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Remote**.

Inherent Risk Severity

The inherent risk severity of impulsive underwater sound causing behavioural changes to marine mammals is considered **Low**.

Risk Event: TTS and PTS (Marine Mammals)

Inherent Consequence Evaluation

Empirical estimates indicated that the SEL_{24h} and PK noise effect criteria for TTS or PTS for all marine mammal groups (i.e., low-frequency cetaceans, mid-frequency cetaceans, high-frequency cetaceans, or otariid seals) was not predicted to be exceeded (

Table 6-16). As such, auditory impairments, or auditory injuries to marine mammals from impulsive sound from positioning or survey equipment is not evaluated further.

Inherent Likelihood

Not applicable.

Inherent Risk Severity

Not applicable.

Risk Event: Behavioural Changes (Turtles)

Inherent Consequence Evaluation

Empirical estimates indicated that the maximum distance from an equipment sound source to the SPL behavioural noise effect criteria for all marine turtles was <130 m (

Table 6-16). As per the discussion above for marine mammals, this distance varied with equipment source (Section 6.5.4.2). This is consistent with the relative risk criteria from Popper *et al* (2014) that suggest that behavioural changes (e.g., avoidance, diving) would only be expected for individuals near the source (high risk of behavioural impacts within tens of metres of source and moderate risk of behavioural impacts within hundreds of metres of the source) (McPherson and Koessler 2021).

The PMST report (for the operational area, identifies that marine turtle species listed as threatened and / or migratory under the EPBC Act have the potential to present, including:

- Loggerhead turtle, leatherback turtle (endangered, migratory)
- Green turtle (vulnerable, migratory).

No BIAs or critical habitat occur within the predicted ensonified area for behavioural changes for marine turtles.

Given the infrequent and short duration (e.g., hours to days) of use of any of the positioning or survey equipment, and the very limited spatial area (e.g., up to ~130 m) of exposure to impulsive sounds above behavioural thresholds, the consequence of this risk event has been evaluated as **Level 2**, as underwater sound may result in localised short-term impacts to species of conservation value not affecting local ecosystem function.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Remote**.

Inherent Risk Severity

The inherent risk severity of impulsive underwater sound causing behavioural changes to turtles is considered **Low**.

Risk Event: TTS and PTS (Turtles)

Inherent Consequence Evaluation

Empirical estimates indicated that the SEL_{24h} noise effect criteria for TTS or PTS for marine turtles was not predicted to be exceeded (

Table 6-16), and as such, the risk of auditory impairment or injury to marine turtles from cumulative ≥ 24 -hour exposure is not considered credible and has not been evaluated further.

Empirical estimates indicated that the maximum distance from an equipment sound source to the PK noise effect criteria for TTS or PTS for marine turtles was only within metres of the sound source (

Table 6-16).

As described in Section 6.5.4.2, four species listed as threatened and/or migratory under the EPBC Act have the potential to present within the predicted ensonified area. However, no BIAs or critical habitat occur for marine turtles within the predicted ensonified area.

Given the infrequent and short duration (e.g., hours to days) of use of any of the positioning or survey equipment, and the very limited spatial area (e.g., within metres) of exposure to impulsive sounds above auditory impairment or injury thresholds, the consequence of this risk event has been evaluated as **Level 2**, as underwater sound may result in localised short-term impacts to species of conservation value not affecting local ecosystem function.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Remote**.

Inherent Risk Severity

The inherent risk severity of impulsive underwater sound causing auditory impairment or injury to turtles is considered **Low**.

Risk Event: Behavioural Changes (Fish, including Eggs and Larvae)

Inherent Consequence Evaluation

Impulsive sound sources have been identified as a high risk of causing behavioural disturbance to fish with no swim bladder, and fish with swim bladder not involved in hearing, within the near (tens of metres) vicinity of a sound, and a moderate risk within the intermediate (hundreds of metres) vicinity of a sound (

Table 6-16). For fish with swim bladder involved in hearing, impulsive sound sources have been identified as a high risk within the near (tens of metres) intermediate (hundreds of metres) vicinity of a sound (

Table 6-16). Impulsive sound sources have been identified as a moderate risk of causing behavioural disturbance to fish eggs and larvae within the near (tens of metres) vicinity of a sound; this reduces to a low risk beyond this distance.

However, the only survey equipment with energy below 1 kHz is the sub-bottom profiler using a boomer acoustic source, all other equipment which operates at higher frequencies is unable to be heard by most fish, which further reduces the risk of any behavioural change (McPherson and Koessler 2021).

The operational area is within a distribution BIA for the great white shark, though no habitat critical to the survival of the species or behaviour are identified. The Recovery Plan for the White Shark (DSWEPC, 2015) does not identify anthropogenic noise as a threat to the species.

Given the infrequent and short duration (e.g., hours to days) of use of any of the positioning or survey equipment, and the very limited spatial area (e.g., hundreds of metres) of exposure to impulsive sounds above behavioural thresholds, the consequence of this risk event has been evaluated as **Level 2**, as underwater sound may result in localised short-term impacts to species of conservation value not affecting local ecosystem function.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Remote**.

Inherent Risk Severity

The inherent risk severity of impulsive underwater sound causing behavioural changes to fish is considered **Low**.

Risk Event: Masking, TTS, Recoverable Injury, Mortality or Potential Mortal Injury (Fish, including Eggs and Larvae)

Inherent Consequence Evaluation

Based on the relative risk criteria from Popper et al. (2014), there is a low risk of masking for all fish groups, apart from those with a swim bladder involved in hearing, which have a moderate risk at a far (thousands of

metres) distances of the sound source (McPherson and Koessler 2021). However, this is only relevant for a sub-bottom profiler using a boomer acoustic source, as all other sources have signals outside the hearing range of most fish in the region (McPherson and Koessler 2021).

Impulsive sounds from survey equipment could result in physiological impacts to fish from the sidescan sonar, but not for the MBES or positioning equipment (McPherson and Koessler 2021).

Empirical estimates indicated that the SEL_{24h} noise effect criteria for TTS, recoverable injury, and mortality or potential mortal injury for fish was only within metres of the sound source (

Table 6-16). Note that the SEL_{24h} is a cumulative metric that assumes a receptor is consistently exposed to the relevant noise effect criteria for a 24-hour period. Specifically for fish, this requires them to remain within metres of the sidescan sonar for at least a 24-hour period before auditory impairments or injuries may occur. Given that fish (if present) are expected to be transitory through the area, the risk of auditory impairments or injuries from an accumulated 24-hour exposure is not considered credible and has not been evaluated further.

Empirical estimates indicated that the PK noise effect criteria for recoverable injury, and mortality or potential mortal injury for fish was only within metres of the sound source (Table 6-16).

Given the infrequent and short duration (e.g., hours to days) of use of any of the positioning or survey equipment, and the very limited spatial area (e.g., metres) of exposure to impulsive sounds above auditory impairments or injury thresholds, the consequence of this risk event has been evaluated as **Level 2**, as underwater sound may result in localised short-term impacts to species of conservation value not affecting local ecosystem function.

Inherent Likelihood

The inherent likelihood of this consequence occurring is considered **Remote**.

Inherent Risk Severity

The inherent risk severity of impulsive underwater sound causing auditory impairment or injury to fish is considered **Low**.

6.5.4.3 Risk: Cumulative Impacts

The generation of subsea noise within the Otway Basin by Cooper Energy will occur within the wider context of anthropogenic generation of sound by other nearby operators. The operational soundscape across the basin is longstanding with anthropogenic noise being an existing pressure as outlined in Section 4.4.3. The types of operational activities included within this EP have been undertaken in this location by Cooper Energy for a number of years and contribute to the existing subsea noise baseline. The continuation of these activities is not predicted to contribute to cumulative impacts associated with noise generation as these form part of the environmental baseline and are currently experienced by both blue whales and southern right whales.

The NOPSEMA Environment Plan website has been used to identify titleholders within the Otway Basin with details of proposed activities publicly available. Titleholder activities (proposed and approved) span development, exploration, operation and production and decommissioning. These activities have potential to result in an additive impact when considered on top of Cooper Energy ongoing activities.

The Australian government has declared an area of the Bass Strait as Australia's first offshore wind zone south of Wilsons Promontory running east. The Australian Government has also proposed declaring an offshore wind zone in the Southern Ocean off the coast of Portland which is under public consultation at the time of writing. It is highly unlikely any significant offshore wind activities within the Otway Basin will overlap the activities described within this EP over the next 5-years.

Cooper Energy considered the following values and sensitivities for further analysis in relation to potential cumulative impacts from anthropogenic noise:

- Listed threatened species.
- Listed migratory species.
- Values and sensitivities of the Commonwealth marine environment
- Other values (social, economic and cultural)

The potential receptors of cumulative impacts from underwater sound are identified within sections 6.5.4.1 and 6.5.4.2. Further evaluation of potential cumulative impacts has been included here for those species

considered more sensitive to anthropogenic noise, specifically blue whales and southern right whales, noting the conservation management plans for both species identify anthropogenic noise as a key threat and/or include specific actions to address anthropogenic noise.

Risk Event: Behavioural Changes, TTS and PTS (Low Frequency Cetaceans) **Inherent Consequence Evaluation**

Cumulative impacts may occur where multiple activities are conducted concurrently or consecutively within the same spatial region, resulting in a greater level of potential consequence than what may be expected from an isolated activity.

In the context of this EP, the highest sound emissions are from vessel operations when undertaking IMR activities which may take a day or up to approximately 30 days depending on the scope of work. The offshore operations and associated IMR activities have been undertaken since 2006 and is part of the baseline for the Otway Basin against which Cooper Energy will assess potential cumulative impacts from any concurrent and/or future activities that may be planned within the region within future Cooper Energy EPs.

The preventative and adaptive mitigation measures committed to by operators within published EPs reduce the risk of impacts to marine fauna and are well understood by COE. This provides a high level of predictability and certainty in the limited potential for cumulative impacts.

Given the limited potential for temporal and spatial overlap between different operators activities (identified in Table 6-19), and the highly mobile nature of both southern right whales and blue whales, the risk of PTS and TTS is not considered to be increased for individuals. The following analysis therefore focuses on the risk of behavioural impacts to southern right whales and blue whales.

Southern Right Whales

Should concurrent sound generating activities occur between nearby operators within the Otway Basin this may result in an increased proportion of the Southern Right Whale BIAs being exposed to subsea noise at levels above which behavioural impacts could occur. Behavioural disturbance could result in an individual expending more energy to move away from the sound source when migrating to and from the reproduction BIA or being disturbed whilst within the reproduction BIA.

The eastern population of southern right whales display site fidelity to calving areas within south-eastern Australia (Watson, 2021). This site fidelity has the potential to be affected if whales are disturbed, with repeated disturbances from different activities increasing the likelihood of changing the species' utilisation patterns of calving and nursery areas.

Blue Whales

Concurrent activities could result in an increased proportion of the Blue Whale BIAs being exposed to subsea noise at levels above which behavioural impacts could occur. These impacts could include individual whales disturbed from foraging and expending additional energy to locate food.

The consequence of this potential impact has been evaluated as **Level 2**.

Inherent Likelihood

Reasonably foreseeable activities with subsea noise generation within the Otway Basin are reviewed within Table 6-19. This indicates limited potential for temporal or sequential overlap between Cooper Energy Activities at CHN and other existing and reasonably foreseeable activities, particularly noting the nature and scale of the current activities at CHN, being limited in duration and extent.

Titleholders with accepted or under assessment EPs commit to manage the impacts and risks of their activities to levels that are acceptable and ALARP. The adopted controls as proposed within the EPs are taken to meet acceptability thresholds established within respective species management plans.

The likelihood of Cumulative Impacts associated with Cooper Energy ongoing activities generating underwater sound (*Low Frequency Cetaceans*) is therefore considered too similar to individual activities and is assessed as **Possible**.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 6-19 Reasonably foreseeable future activities and projects in the offshore Otway Basin

EP	Operator implements mitigation measures to avoid displacement of whales?	BIAs intersected by behavioural noise contours	Ongoing activity forming part of existing anthropogenic soundscape?	Description of any behavioural noise contours that physically overlap one another.
Beach Energy – Otway Phase 5 Early Dive Installation Campaign [Stop date 6 December 2022 – No temporal or spatial overlap]	✓	✓ Blue whale foraging BIA ✓ SRW Migration BIA	N	Activities do not occur concurrently with planned COE activities within this EP. There is no temporal overlap. Beach Energy behavioural noise contours appear contained within Beach Energy permit area. Cooper Energy behavioural noise contours do not extend into T/L2. Spatial overlap is not expected. No sequential spatial overlap is expected. The total % of BIAs potentially by both sets of activities is: SRW BIA's <1%. PBW BIA's <1%.
Beach Energy – Thylacine Subsea Installation and Commissioning (T/L2 and T/L4) [Accepted - Potential temporal overlap]	✓	✓ Pygmy Blue whale distribution and foraging BIA ✓ SRW migration BIA	N	Activities to occur Q3 2024 – Q4 2025 over 14 days, potentially year-round resulting in potential temporal overlap. Beach permits T/L2 and T/L4 are distant from Cooper Energy permits with no spatial overlap of noise contours expected. Temporal overlap of activities such as vessel IMR could be in the order of 28-days, though are currently not planned. The total % of BIAs potentially by both sets of activities is: SRW BIA's <1%. PBW BIA's <1%.
Beach Energy - Otway Offshore Operations [Accepted - Potential temporal and spatial overlap]	✓	✓ Pygmy Blue whale high density foraging BIA ✓ SRW Migration (and Reproduction BIAs – very infrequent)	Y	Cumulative Impacts from Beach Energy proposed activities are not predicted at the SRW BIAs and emerging aggregation area at Port Campbell. Cumulative impacts from Beach Energy activities on SRWs calving close to shore or to their survival while leaving reproduction areas area are not predicted. Behavioural noise contours may overlap in the nearshore environment. Spatial and temporal overlap is possible at the nearshore where Cooper Energy and Beach Energy facilities are installed close

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

EP	Operator implements mitigation measures to avoid displacement of whales?	BIAs intersected by behavioural noise contours	Ongoing activity forming part of existing anthropogenic soundscape?	Description of any behavioural noise contours that physically overlap one another.
				by and cross to the shore near to Port Campbell. Spatial and temporal overlap of activities such as vessel IMR could be in the order of 28-days, though are currently not planned.
Beach Energy – Offshore Gas Victoria Geophysical and Geotechnical Seabed Survey [Accepted - Potential temporal and spatial overlap]	✓	✓ Pygmy Blue whale foraging BIA ✓ SRW migration BIA	N	The Operational Area for Beach Energy's survey activities in the Otway extends into Cooper Energy Title Areas. Spatial and temporal overlap with Cooper Energy activity noise contours is possible. Spatial and temporal overlap of activities such as vessel IMR could be in the order of 28-days, though are currently not planned. The total % of BIAs potentially by both sets of activities is expected to be in the order of: SRW BIA's <1%. PBW BIA's <1%.
Woodside Energy - Minerva Plug and Abandonment and Field Maintenance [Accepted - Potential spatial and temporal overlap]	✓	✓ Pygmy Blue whale foraging BIA ✓ SRW Migration and Reproduction BIAs	N	Spatial and temporal overlap of noise impacts from activities is possible and in the order of 28-days, though respective vessel activities are not currently planned to run at the same time. The total % of BIAs potentially affected by both sets of activities is expected to be in the order of: SRW BIA's <1%. PBW BIA's <1%.
Conoco Phillips – Otway Exploration Drilling Program [Public Comment - Potential spatial and temporal overlap]	✓	✓ Blue whale foraging BIA ✓ SRW migration BIA	N	Conoco Phillips estimated behavioural contours from exploration drilling activities appear to intersect Cooper Energy titles (VIC/P44, VIC/L24, VIC/L30, VIC/L33 and VIC/L34) Spatial and temporal overlap of noise impacts from activities is possible and in the order of 28-days.
TGS-NOPEC Geophysical Company – Otway Basin 3D Multi-client Marine Seismic Survey [Recently closed public	✓	✓ Blue whale foraging BIA	N	Activities being undertaken to the south-west of released Otway permit acreage. OA overlaps other operator titles. Behavioural noise contours are unlikely to overlap Cooper Energy

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

EP	Operator implements mitigation measures to avoid displacement of whales?	BIAs intersected by behavioural noise contours	Ongoing activity forming part of existing anthropogenic soundscape?	Description of any behavioural noise contours that physically overlap one another.
comment - Potential temporal overlap]				title areas or activity noise contours. Temporal overlap of noise impacts from activities is possible and in the order of 28-days, though respective vessel activities are not currently planned to run at the same time. The total % of BIAs potentially affected by both sets of activities is expected to be in the order of: SRW BIA's <1%. PBW BIA's <1%.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Inherent Risk Severity

The EPs for activities within the Otway Basin as outlined in Table 6-19 demonstrate all operators will implement control measures to reduce the risk of displacement (of whales) occurring during important times, and ensure activities are not inconsistent respective species conservation management plans and actions.

The proportion of the Blue Whale Foraging BIA (Annual High Use) and Southern Right Whale Migration and Reproduction BIAs overlapping potential concurrent or sequential activities is small.

Individuals are predicted to be unincumbered from accessing or remaining within the BIAs given the small area potentially affected by subsea noise above behavioural thresholds. Sound from cumulative sources is not expected to affect the recovery of either species.

The inherent risk severity of cumulative impacts from subsea noise to low frequency cetaceans is considered **Moderate**.

6.5.5 Control Measures ALARP and Acceptability Assessment

Table 6-20 provides a summary of the control measures and ALARP and Acceptability Assessment relevant to continuous sound emissions, including the controls required to ensure the activity is managed such that residual impacts and risks will not be inconsistent with relevant conservation management plans. A detailed assessment has been undertaken and, as part of Cooper Energy's consultation for previous projects and impacts, Cooper Energy has sought advice from Australian Antarctic Division (AAD) on measures implemented or considered by the AAD for voyages into sensitive areas. Suggestions from the AAD are noted in Table 6-20.

Table 6-20: Underwater Sound Emissions ALARP, Control Measures and Acceptability Assessment

Underwater Sound Emissions	
ALARP decision context and justification	ALARP Decision Context: Type A Impacts from sound emissions are well understood, informed by an increasing volume of literature, and in-field observations. There will always be some uncertainty around the reaction of individual animals, and hence the assessment of impacts and risks has been conservative, from the selection of disturbance criteria, modelling assumptions, and evaluation of potential consequence and likelihood. Activities are well practiced, and there are no conflicts with company values, no partner interests, and no significant media interests. Because the potential impacts to marine fauna of conservation value are evaluated as Level 2, Cooper Energy believes ALARP Decision Context A should apply. ALARP Decision Context: Type B ALARP decision context B has been applied in relation to blue whales and southern right whales because there is a residual (moderate) risk in relation to behavioural disturbance to this species within a BIA. The conservation management plans for these species indicate that at certain times of year and for certain activities, additional mitigation actions and an adaptive management plan may be required in keeping with a precautionary approach. Further controls to manage residual risks have been considered and several additional controls have been adopted. The adopted controls ensure the project environmental outcomes can be met and are not inconsistent with the objectives and relevant actions of species recovery plans.
Control Measures	Sources of Good Practice Control Measures
CM13: EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans and Victorian (Marine Mammals) Regulations 2019	EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans describes strategies to ensure whales and dolphins are not harmed during offshore interactions with vessels and helicopters. Vessels adhere to the distances and vessel management practices of EPBC Regulations (Part 8) with increased caution zone of 500 m between whales and project vessels.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	Victorian Legislation – Wildlife (Marine Mammals) Regulations 2019 has additional requirements on vessels working alongside cetaceans. Vessels must keep a caution zone of- • For a dolphin, 150 metres. • For a non-dolphin whale, 300 metres. • For a seal, 50 metres. The vessel may not enter whale sanctuary zones and shall report interactions with whales and dolphins. The minimum distance from whales for regulated aircraft is 500 vertical metres within a 500-metre radius of a whale. <i>Risk event addressed: Behavioural changes.</i>
CM10: Planned Maintenance System	Power generation and propulsion systems on vessels will be operated in accordance with manufacturer's instructions and ongoing maintenance to ensure efficient operation. <i>Risk event addressed: Behavioural changes, auditory impairment or auditory injury from continuous sound.</i>
Additional Controls Adopted	
CM17: pre-IMR campaign Risk Review (noise)	Risk reviews are standard practice for offshore campaigns. The Cooper Energy Environmental Protocol (CMS-EN-PRO-0001) describes how environmental impact and risk management, including risk assessments, is undertaken for activities including IMR activities. As part of pre-campaign planning a risk review will be undertaken to re-assess campaign environmental impacts and risks to ensure ALARP and acceptability criteria are met. The assessment of environmental impacts and risks will focus on aspect: subsea noise, and risks to endangered whale species, specifically pygmy blue whales, and southern right whales. The review will seek to identify an environmental window where risks (from subsea noise) to endangered whales are avoided, where practicable, and in any case, ensure that risks are continually reduced to levels that are ALARP and acceptable. The review framework is described in Section 10.10 and considers: - Facility drivers e.g. integrity management and mandated shutdown windows - Campaign drivers e.g. vessel availability, consideration of vessels with silent notation, works duration and schedule - Seasonal environmental sensitivities e.g. conservation advice, exclusion zones, sensitivity of species across the broader region - Campaign risk events (subsea noise) e.g. undertake noise modelling appropriate for selected DP vessel, evaluation of overlap of noise contours with expected sensitivities, review of temporal overlap with seasonal sensitivities and neighbouring activities with opportunity for cumulative impacts - Campaign Risk controls e.g. reassess suitability of control measures, reconsider discounted measures and consider new techniques. The review will be undertaken within the 6-months prior to a IMR activity commencing to assess any new or updated information to avoid or reduce overlap with endangered whales, where practicable, and to determine if additional controls are required to ensure that risks are continually reduced to levels that are ALARP and are of an acceptable level. <i>Risk event addressed: Behavioural changes, auditory impairment or auditory injury from continuous sound.</i>
CM18: Offshore Victoria Whale Disturbance Risk Management Procedure	The impact and risk assessment has shown the potential for interaction between whales and the activity, with some uncertainty around the likelihood of impacts. This uncertainty is addressed through the implementation actions management measures detailed within

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	Section 8, and which fall within the Offshore Victoria Cooper Energy Whale Disturbance Risk Management Procedure. Action A.2.3 (Anthropogenic noise in biologically important areas will be managed such that any blue whale continues to utilise the area without injury and is not displaced from a foraging area) will be implemented in accordance with DAWE guidance on key terms (2021), where the action is needed to achieve the objective of the blue whale CMP (EPO7). This will involve: • Application of precautionary criteria including suitable thresholds to establish parameters for impact and risk assessment. • Actions and adaptive management measures, as detailed in Section 8 (and within the Whale Disturbance Risk Management Procedure), will be implemented for DP vessel activities to reduce the risk of BW injury and/or displacement. Following review of the SRW 2024 recovery plan, published 30 July 2024, Cooper Energy considers that additional mitigation actions and adaptive management measures are required in keeping with a precautionary approach. This will involve: • Application of precautionary criteria including suitable thresholds to establish parameters for impact and risk assessment that quantify the risks of anthropogenic underwater sound. • Actions and adaptive management measures, as detailed in Section 8 (and within the Cooper Energy Whale Management Protocol), will be implemented for vessel activities to prevent displacement of a southern right whale from the Reproduction BIA, and reduce the risk of auditory impairment and behavioural disturbance. The Offshore Victoria Whale Disturbance Risk Management Procedure provides details on the level of whale observation effort, triggers for actions and the actions to be taken to manage potential impacts to endangered whales (blue whales and southern right whales). This includes trigger points to cease operations where safe to do so, where individuals are observed to be at risk of disturbance. The protocol also identifies requirements for surveillance effort and expected communications on the vessel and between vessel and shore-based project team. These measures are described within the Environmental Performance Standards (Section 9) in this EP. <i>Risk event addressed: Behavioural changes, auditory impairment or auditory injury from continuous sound</i>
Impact and Risk Summary	
Residual Impact Consequence	Level 1 – Minor local impacts or disturbances to flora/fauna, nil to negligible remedial / recovery works on land/water systems
Residual Risk Consequence	Level 2 – Localised short-term impacts to species or habitats of recognised conservation value not affecting local ecosystem function; remedial, recovery work to land, or water systems over days / weeks
Residual Risk Likelihood	Due to the nature and scale of the activities, and considering the proposed controls, the likelihood of behavioural changes due to continuous sound during IMR vessel activities is assessed as: Possible (C) - Conceivable and could occur at some time. Could occur during the activity although a rare combination of factors would be required for the occurrence.
Residual Risk Severity	Behavioural change, auditory impairment or auditory injury from continuous sound: Moderate (C). Behavioural change, auditory impairment or auditory injury from impulsive sound: Low (E). Behavioural change, auditory impairment or auditory injury from cumulative impact: Moderate (C).
Demonstration of Acceptability	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Principles of ESD	Underwater sound emissions are evaluated as having Level 2 consequence which is not considered as having the potential to result in serious or irreversible environmental damage. Consequently, no further evaluation against the principles of ESD is required.
Legislative and Conventions	Noise emissions will be managed in accordance with legislative requirements. Noise emissions will: - Not impact on the recovery of marine turtles as per the Recovery Plan for Marine Turtles in Australia (CoA, 2017). - Be managed such that any blue whale continues to utilise the area without injury and is not displaced from a foraging area in accordance with DAWE guidance on key terms (2021), where the action is needed to achieve the objective of the blue whale CMP (CoA, 2017). - Not impact the recovery of the blue whale as per the species CMP (CoA 2017). - Not impact the recovery of the southern right whale as per the National Recovery Plan for the Southern Right Whale (DCCEEW, 2024). - Not impact the recovery of the white shark as per the Recovery Plan for the White Shark (DSEWPac, 2013a). Actions from the CMP for the Blue Whale (CoA 2017) applicable to the activity in relation to assessing and addressing anthropogenic noise have been addressed as per: - Assessing the effect of anthropogenic noise on blue whale behaviour. Section 6.5.4.1 assesses the effects of anthropogenic noise from the activity on blue whale behaviour. - Be managed such that any blue whale continues to utilise the area without injury and is not displaced from a foraging area. Mitigation measures will be implemented to reduce the risk of displacement occurring during operations where modelling indicates that behavioural disturbance within a Foraging Area may occur (DAWE, 2021). Actions from the Southern Right Whale Recovery Plan (DCCEEW 2024) applicable to that activity in relation to addressing and addressing anthropogenic noise have been provided for. The specific actions, and how they are addressed are summarised within Section 2.1.
Internal context	Relevant management system processes adopted to implement and manage hazards to ALARP include: - Risk Management (MS03) - Health Safety and Environment Management (MS09) - Supply Chain and Procurement Management (MS11) Activities will be undertaken in accordance with the Implementation Strategy (Section 10).
External context	No relevant persons objections or claims have been received regarding underwater sound emissions. Identified cultural values including Gunditjmara connection to Koontapool (southern right whale) are not expected to be at risk of disruption by the planned activities. Cooper Energy has previously sought advice from the Australian Antarctic Division (AAD) in relation to the management of impacts from noise. The consultation outcomes are presented within the BMG Closure Project Phase I EP (NOPSEMA ID: 6825) and are not repeated here. Suggestions provided by the AAD have been re-evaluated within the ALARP assessment process below in the context of the Otway activities. During activity consultation, GMTOAC and members raised general concerns in relation to potential barriers to migration for whales and eels; during consultation day in February 2024, Cooper Energy described the mitigation measures applied during offshore vessel activities, including increased caution zones. No further concerns have been raised with Cooper Energy on this aspect of the activity. Environmental Justice Australia, who were a guest at the GMTOAC consultation day, queried if cumulative impacts from activities in the region had been assessed. In the context of the values and sensitivities described by GMTOAC; this was discussed at the consultation day, and subsequently, further assessment of potential cumulative impacts to whales

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	(Karntubul) from petroleum activities across the region, has been included within this evaluation in this Section of the EP.
Acceptability outcome	Acceptable Cooper Energy has determined that impacts and risks related to continuous sound emissions are acceptable, based on: • The planned management of impacts and risks integrates Cooper Energy internal requirements, including relevant management system processes • The activities will be managed in a way that is not inconsistent with the relevant principles of ESD • The proposed controls and impact and risk levels are not inconsistent with national and international standards, laws, and policies including applicable plans for management and conservation advices, and significant impact guidelines for MNES • Relevant historical feedback from relevant persons (AAD) for activities of similar nature and scale to the Project has been used to inform mitigation measures. To manage impacts to receptors to or below the defined acceptable levels the following EPOs have been applied: • EPO7a: Impacts to marine Fauna from Activity noise emissions will be limited to temporary behavioural change localised to the noise source, with no species population-level impacts • EPO7b: Any whale can continue to utilise the area without injury (PTS or TTS) • EPO7c: Activities do not cause displacement of any blue whale from a foraging area • EPO7d: Activities do not prevent any southern right whale from utilising a migration BIA or HTCS. • EPO7e: The risk of behavioural disturbance to southern right whales inside and adjacent to BIAs and HCTS and is minimised.

Table 6-21: Underwater sound emissions extended ALARP Assessment

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
Eliminate Activity	PTS, TTS and behavioural disturbance of whales from vessel noise. Rated as L2 consequence and Low risk in relation to these project activities.	By not undertaking the activity, sound sources would be eliminated.	N/A	N/A	N/A	Reject Rationale: Option not feasible. The activity is existing and IMR vessel activities are required as part of integrity management.
Eliminate use of DP vessels during defined periods when blue whales and/or southern right whales are more likely to occur	As above	By avoiding periods when blue whales and / or southern right whales are more likely to occur, impacts to species of conservation significance during biologically important behaviours can be eliminated (for the species of concern).	There are examples of this type of control being applied in well defined, discrete areas, for example, the exclusion of vessels from Logans Beach, Warrnambool (June-Oct) which is an established nursery for southern right whales in the south east. This type of control is not typical of entire BIAs such as blue whale foraging areas, which encompass the entire south east coastline. It would be impossible for existing and emerging industries to operate offshore south east Australia if activities were only permitted	Eliminating the use of DP vessels during blue whale and / or southern right whale seasons limits schedule flexibility so as to make it impossible (or impracticable) to operate.	This introduces significant risks, whereby vessel use would be so restricted in their operational window making operating impracticable and would not be compatible with the safe and efficient operation of the facility. Avoiding the periods when blue whales are more likely to occur, would mean undertaking the vessel operations during the periods when southern right whales are more likely to be present, and vice versa.	Reject Rationale: Option not feasible. The activity is existing. In this region, southern right whales occur over winter; blue whales occur over summer. There is no environmental window which avoids both species.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
			outside of periods when blue whales or southern right whales occur in the region, as this represents the entire year.			
No planned activities involving vessel DP operations if those activities are predicted to result in noise above the behavioural disturbance threshold within preferred calving and nursing areas (<10m water depth) within 1km of the coastline when occupied by pregnant or nursing southern right whales.	As above	Temporal avoidance removes anthropogenic underwater noise (above potential behavioural disturbance thresholds) when whales that are pregnant or nursing calves are present in areas where they may be particularly sensitive to noise. This prevents disruption to reproduction and key life history behaviours of SRW, prevents injury and enables any SRW to continue utilising the area.	Yes. This aligns with the actions within the CMP for the Southern Right Whale.	Reduces schedule flexibility. Increased costs. This reduced operating window would apply to IMR activities using a DP vessel within the northern half of VIC/PL37(v) which overlaps southern right whale reproduction BIA. This is a relatively small section of pipeline with relatively long intervals between IMR.	DP vessel use would have a restricted operational window reducing the practicability of operations. Scheduling to avoid southern right whale reproduction times would result in increased likelihood of overlap with the presence of foraging whales.	Accept Rationale: This limitation would only apply to IMR activities within the northern half of VIC/PL37(v) and avoid the risk of displacement of southern right whales from the reproductive BIA during sensitive times. Integrated into CM17: pre-IMR Campaign Risk Review (noise).
Vessels undertaking petroleum activities in operational areas overlapping within preferred calving and nursing areas (<10 m water depth) within 1km	As above Physical disturbance	Reduces load on vessel propulsion system with expected reduction in associated noise propagation. Reduces potential for physical interaction with	There are examples of vessel speed restrictions in discrete areas globally (e.g. north Atlantic right whale, North America) and Logans beach (southern	Slight increase in vessel transit times. Not considered material to IMR schedules.	Reduced vessel operational limits. These can be over-ridden in the event of safety critical actions as directed by the vessel master or their delegate.	Accept Rationale: This limitation would only apply to IMR activities within the northern half of VIC/PL37(v) and avoid the risk of displacement

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
of the coastline will operate at <10 knots during times when southern right whales are expected to be present.		southern right whales that could be calving / resting.	right whale, Victoria Australia)			of southern right whales from the reproductive BIA during sensitive times. Integrated into CM39: Vessel Speed.
Vessel selection process includes consideration of relative nature/scale of potential subsea noise impacts.	As above	Provides opportunity to influence reduction in subsea noise associated with the activity.	There are examples of vessels being designed to minimise noise (e.g. Australian Antarctic Research vessel) but typically vessels are selected on the basis of capability for the work scope.	Cost associated with time for vessel option evaluation.	No introduced risks.	Implement Rationale: supports reducing risk of displacement. Costs are not considered to be grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea underwater sound emissions. Integrated into CM31: pre-IMR Campaign Risk Review.
Anchoring of vessels to hold position rather than use DP	As above	By anchoring vessels, sound emissions related to vessel DP would be reduced.	This is not feasible. For IMR activities, vessels need to be able to both hold position to within a narrow margin of error and be able to move at a consistent pace along facilities when undertaking inspections, maintaining a narrow path above the	Not considered feasible.	N/A	Reject. Rationale: Option not feasible.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
Limit power to thrusters of DP vessels to reduce underwater sound contours	As above	Limiting thruster power could reduce impacts from subsea underwater sound. Limiting thruster power is possible where activities can be first made safe. This action would not be immediate but should reduce the risk of displacement if whales are foraging or transiting in the vicinity.	Not typically applied to vessels as thruster power is determined by safety limits and operational requirements. Thruster levels are optimised to operating modes and conditions but can be reduced if safe to do so.	Considered feasible if safe to reduce thruster power.	N/A	Implement. Rationale: Thruster power can be reduced if safe to do so. Integrated into CM18: Whale Disturbance Risk Management Procedure.
DP vessel underwater sound reduction in design (DNV Silent notation)	As above	Vessel design can reduce underwater sound.	Relevant person feedback: AAD advised their new state of the art survey/ice breaker vessel <i>Nuyina</i> which will operate in the Antarctic has been designed to reduce underwater sound and vibration. The vessel has been assigned DNV Silent R notation equivalence at 8 kn electric propulsion for science acoustic work.	Given the current absence of industry vessels with silent notation, this measure is not considered to be feasible for the project at this point in time but can be a point of consideration during planning and vessel selection.	N/A	Reject. Rationale: Option not feasible.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
			Currently not typical for industry. A review of industry vessels operating inside and outside of Australian waters has not identified any vessels assigned the DNV Silent notation.			
Implement safe shut-down points	As above	Shutting down vessel DP could reduce impacts from subsea underwater sound. Shutting down vessel DP is possible where activities can be first made safe. This action would not be immediate but should reduce the risk of displacement if whales are foraging (PBW) or transiting/aggregating (SRW) in the vicinity.	Not typically applied to DP vessels. Typically applied to activities that generate impulsive underwater sound such as piling and seismic survey. During consultation, the Australian Antarctic Division (AAD), noted use of shutdown zones for explosive use (during wharf construction) in Antarctica, not for vessels.	Cost associated with shutting down DP, requiring suspension of program. Potential cost >\$100K.	Retrieval of any subsea equipment (e.g., ROV) required prior to DP shutdown. Increased frequency of handling through the splash zone and on deck increases personnel H/S risk exposure. This is considered manageable through existing systems for control of work. Good reliability at project operational level.	Implement Rationale: reduces risk of displacement of whales. Costs are not grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea noise. Integrated into CM18: Whale Disturbance Risk Management Procedure.
Deploy bubble curtains around vessels.	As above	Increased confidence no foraging blue whales or southern right whales in the vicinity which could be displaced.	Bubble curtains were raised as an idea during project ALARP workshops and also by the AAD during stakeholder consultation. No known examples of bubble	Not considered feasible	Discussions with technology providers indicates the deployment of bubble curtains offshore in environments like the Otway presents a	Reject Rationale: Option not feasible.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
			curtains being used as mitigation for DP vessels.		number of challenges, including: Providing oil-free air to the seabed would require a large quantity of large diesel-run air compressors. An additional dedicated DP support vessel would likely be required for these compressors. Currents – Bubble curtains are drastically impacted by currents. Current speeds and directional shifts with wind and tide, which in the dynamic environment of the Otway would result in bubble curtains being distorted and ineffective by the time bubbles rise from the seabed to surface. Alternate options such as the deployment of hoses on close to vessel thruster locations or offset on buoys present SIMOPS and safety risks including	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
					congestion of the vessel safety zone and potential interference with/from thrusters. As a result, the use of bubble curtains is not considered effective, feasible or practicable.	
Dedicated daily aerial surveys during activities	As above	Increased confidence no foraging blue whales or southern right whales in the vicinity which could be displaced.	Aerial survey typically applied to activities that generate impulsive noise such as seismic survey.	Daily aerial surveys could introduce significant costs, to the IMR activities (more than double) accounting for the cost of survey, and cost of waiting on weather if survey flights are grounded.	HSE risks associated with aerial survey (can be managed via existing control of work processes). Low-Moderate reliability at the project operational level. Getting an aerial survey off the ground and back safe is weather dependent; weather in the Otway Basin is changeable, hence introduces additional variable to project schedule risk.	Reject Rationale: significant costs with limited increased benefit.
Aerial survey (with trained MMO) in the 24h prior to commencing vessel DP.	As above	Increased confidence no foraging blue whales or southern right whales in the vicinity which could be displaced. Useful where full extent of the behavioural noise	Aerial survey typically applied to activities that generate impulsive noise such as seismic survey.	Small increase in costs relative to cost of vessel campaign.	HSE risks associated with aerial survey (can be managed via existing control of work processes). Low-Moderate reliability at	Retain as a contingency option to support pre-start survey (in BIA / in season) in the event behavioural noise contours extend beyond the limits of observation

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
		disturbance contours cannot be observed from vessel.			the project operational level. Getting an aerial survey off the ground and back safe is weather dependent; weather in the Otway Basin is changeable, hence introduces additional variable to project schedule risk.	by vessel-based observer. A requirement to survey at least the extent of the behavioural disturbance area has been integrated into CM18: Whale Disturbance Risk Management Procedure.
Aerial Survey (with trained MMO) which extends beyond the behavioural disturbance corridor in the 24h prior to commencing vessel DP.	As above	Increased confidence no foraging blue whales or southern right whales in the vicinity which could be displaced. Useful where full extent of the behavioural noise disturbance contours cannot be observed from vessel.	Aerial survey typically applied to activities that generate impulsive noise such as seismic survey.	Small increase in costs relative to cost of vessel campaign.	HSE risks associated with aerial survey (can be managed via existing control of work processes). Low- Moderate reliability at the project operational level. Getting an aerial survey off the ground and back safe is weather dependent; weather in the Otway Basin is changeable, hence introduces additional variable to project schedule risk.	Retain as a contingency option to support pre-start survey (in BIA / in season) in the event behavioural noise contours extend beyond the limits of observation by vessel-based observer. A requirement to survey at least the extent of the behavioural disturbance area has been integrated into CM18: Whale Disturbance Risk Management Procedure.
A dedicated MMO on IMR vessel when operating inside BIA (HCTS southern right	As above	Increased confidence no southern right whales or foraging blue whales in the vicinity which could	Yes. This has been applied to vessels in this region where important	Additional cost of MMO mob/demob and time	No introduced risks. Good reliability at the project operational level.	Implement for vessels. Rationale: supports reducing risk of

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
whale, or foraging area blue whale) and in-season.		be displaced. Higher confidence in identifying whales and whale behaviour compared to opportunistic monitoring alone.	behaviours are known to occur. Feedback from Beach Energy undertaking drilling in the Otway Basin indicates the use of MMOs on vessels was an effective risk management measure. AAD has previously advised in relation to rock blasting activities (wharf construction) in the Antarctic, dedicated MMOs were used where sensitive species may be present.	offshore accounted for in planning.		displacement. Costs are not grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea underwater sound emissions. Integrated into CM18: Whale Disturbance Risk Management Procedure.
Opportunistic monitoring and observation support by vessel crew. Crew observers are inducted into Monitoring and Communications Protocols including requirement to report all sightings to vessel master. Crew to continue observations during MMO rest breaks.	As above	Increased confidence no foraging blue whales or southern right whales in the vicinity which could be displaced.	Yes. Opportunistic monitoring is typically integrated into offshore industry operations including from vessels. Crew are typically engaged to support MMO and are experienced in keeping watch offshore.	Costs associated with inducting crew accounted for in planning.	No introduced risks. Good reliability at the project operational level.	Implement Rationale: supports reducing risk of displacement. Costs are not grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea underwater sound emissions. Integrated into CM18: Whale Disturbance Risk

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
Additional dedicated MMO when daylight hours extend beyond 12-hours a day.	As above	Increased confidence no southern right whales or foraging blue whales in the vicinity which could be displaced. Higher confidence in identifying whales and whale behaviour compared to opportunistic monitoring alone. Risks would remain Low.	This has been applied to vessels in this region where important behaviours are known to occur to manage fatigue issues for long duration activities during periods daylight hours are >12 hour. Crew member (e.g. Officer of the Watch) will receive training from the MMO in whale observation and distance estimation to assist the MMO during daylight hours.	Additional cost of MMO mob/demob and time offshore not accounted for in planning. Potential for limited bed space on vessels. Time to train vessel crew in whale ID and distance estimation.	Marginal bed space on smaller vessel may drive the selection of a larger (and potentially noisier) vessel. MMOs have good reliability at the project operational level. Crew / Officers of the Watch are experienced in working and watch keeping at sea.	Implement for vessels Rationale: supports reducing risk of displacement. Costs are not grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea underwater sound emissions. Integrated into CM18: Whale Disturbance Risk Management Procedure.
Drone surveillance from vessel	As above	May provide slight increase in visibility beyond nominal MMO viewing platform height for the duration of drone flight. This could provide slight increased confidence no foraging blue whales in the vicinity which could be injured or displaced. Risks would remain Low.	Not for this activity type. Some examples of drone use nearshore and offshore particularly for scientific study, though weather sensitive, and not for sustained periods.	Additional cost of drone hire/purchase and pilot for the duration of the campaign estimated circa \$60K.	Dropped object risks. Risks of loss of equipment. Not considered reliable at the operational level for this activity.	Reject Rationale: The measure is not typical practice for this type of activity and does not result in a discernible reduction in risk, whilst adding cost and additional operational HSEC risks. The costs/risks are grossly disproportionate to the risk reduction achieved in relation to

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
Monitor oceanographic precursors (early warning system)	As above	There are oceanographic and biological precursors such as SST, eddies and primary production which may provide an indication of increased secondary production (including krill), which may then be conducive to successful foraging (e.g., Murphy <i>et al.</i> 2017). The benefit of this early warning system is dependent on reliability of these precursors as indicators of blue whale foraging; currently, reliability is likely to be low, which could lead to many false positives. Risks would remain Low.	Not typically applied in offshore industries. Primary productivity measurements are not an accurate pre-cursor to feeding activity. There can be a significant lag between peaks in Chl-A levels and peaks in krill presence. Other factors determine presence of foraging marine mammals aside from prey levels.	Administrative costs of monitoring and interpreting environmental precursors estimated circa \$50K.	Reliability is likely to be low, which could lead to many false positives with significant cost and schedule impact to the project.	Reject Rationale: The measure is not typical practice for this type of activity and does not result in a discernible reduction in risk. The option adds cost and there is limited confidence in operational reliability for this application. The costs are grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea underwater sound emissions.
Satellite imagery	As above	Satellite imagery can be used to gather oceanographic and biological information to support the understanding of	Not typically applied in offshore industries. Sourcing and interrogating satellite imagery is possible, however at the	Administrative costs of monitoring and interpreting satellite images.	Reliability is likely to be low with limited additional benefit relative to accepted controls.	Reject Rationale: The measure is not typical practice for this type of activity and does not result in a discernible reduction in

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
		presence of marine mammals in the area. Risks would remain Low.	operational level is not considered reliable.			risk. The option adds cost and there is limited confidence in operational reliability for this application. The costs are grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea underwater sound emissions.
Infra-red systems	As above	Infra-red (IR) systems could enhance the ability of MMOs to visually detect the presence of foraging whales. Risks would remain Low.	Infra-red systems are not available as a real-time monitoring tool for operations and have the following limitations: Poor performance of the system in sea states greater than Beaufort Sea State 4 (due to the inability to adequately stabilise the camera) (Verfuss <i>et al.</i> 2018; Smith <i>et al.</i> 2020). Conditions such as fog, drizzle, rain limit detections to be made using IR (Verfuss <i>et al.</i> 2018).	Additional cost of IR tech hire/purchase and operators for the duration of the campaign estimated circa \$100K.	Reliability is likely to be low with limited additional benefit relative to accepted controls.	Reject Rationale: The measure is not typical practice for this type of activity and does not result in a discernible reduction in risk. The option adds cost and there is limited confidence in operational reliability for this application. The costs are grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea underwater sound emissions.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
Passive Acoustic Monitoring (PAM)	As above	PAM can be used to detect marine mammal calls, and support sightings made by MMO. Feedback from AAD indicated PAM was utilised during rock blasting activities in the Antarctic to verify subsea noise levels; if noise levels were higher than anticipated then explosive charges could be reduced.	Not typical for offshore vessel activities. Likely to be some interference from vessel noise at close range. PAM will not pick up on whales that are not communicating. Not safe to adjust vessel DP thrust on the basis of subsea noise profiles; operational safety considerations take precedence.	Additional cost of PAM tech hire / purchase and operators for the duration of the campaign estimated circa \$100K.	Reliability considered lower than direct observations, with limited additional benefit relative to accepted controls.	Reject Rationale: The measure is not typical practice for this type of activity and does not result in a discernible reduction in risk. The option adds cost and there is limited confidence in operational reliability for this application. The costs are grossly disproportionate to the risk reduction achieved in relation to temporary operational subsea underwater sound emissions.
Extend the Marine Mammal Risk Management provisions beyond peak foraging/calving season, to include shoulder season.	As above	Increased confidence no southern right whales or foraging blue whales in the vicinity which could be displaced from areas important for foraging / calving.	Not typical for offshore vessel activities.	Additional costs associated with mobilising MMO and/or inducing Crew to implement the risk management provisions.	Marginal bed space on smaller vessel may drive the selection of a larger (and potentially noisier) vessel. MMOs have good reliability at the project operational level. Crew / Officers of the Watch are experienced in	Implement. The Whale Disturbance Risk Management Procedure (CM18) includes provisions for monitoring and activity shut-down during foraging / calving season, including peak and shoulder seasons.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
					working and watch keeping at sea.	
Extend the application of all Marine Mammal Risk Management provisions to all areas where endangered whales may be affected by noise, not just BIA's	As above	Slight reduction in likelihood of a whale being affected by noise (injury / displacement is already assessed as D Unlikely)	Not typical for offshore vessel activities.	Additional costs associated with inducting Crew to implement the risk management provisions.	None	Reject. The Marine Mammal Risk Management provisions are scalable based on the potential for impact
Pre-Campaign Risk review at a minimum timeframe in advance of a campaign to ensure the control is effective at avoiding or reducing overlap with biologically important whale behaviours.	As above	Including a minimum timeframe in advance of the campaign allows for further information (e.g., recent baseline information) to be considered in the risk review.	Yes – reflects intent of Cooper Energy Risk Management (including change management) Processes.	Cost of risk review accounted for as part of project planning.	None	Implement The Pre-Activity Risk Review Process includes provision for completing the risk review within the 6-months prior to the campaign commencing.
Collaboration with nearby titleholders to identify activity overlap and align approached with whale disturbance management	As above	Consistent implementation of control measures. Increased opportunities to improve outcomes across the Otway Basin activities.	Yes – considered good practice to share relevant learnings.	Cost of time to facilitate and partake in meetings / communications and implement associated actions.	None	Implement. Cooper Energy participate in relevant communications with other Titleholders in the Otway, providing opportunity to discuss cumulative impacts and their management.

6.6 Introduction, Establishment and Spread of IMS

6.6.1 Cause of Aspect

Unplanned introduction of invasive marine species (IMS) may occur as a result of the following activities:

- Vessel operations (State and / or Cwth waters)

IMS are marine plants or animals that have been introduced into a region beyond their natural range and can survive, reproduce and establish founder populations. Species of concern are those that are not native, are likely to survive and establish in the region, and are able to spread by human mediated or natural means. Factors that dictate their survival and invasive capabilities depends on environmental factors such as water temperature, depth, salinity, nutrient levels, habitat type and competition.

IMS have historically been translocated and introduced around Australia by a variety of natural and anthropogenic means. In relation to the facilities and activities, the introduction, establishment and spread of IMS could occur via a number of different pathways and risk events (Table 6-22).

Table 6-22: IMS Risk: Pathways for potential introduction, establishment and spread of IMS

Risk event	Pathway to introduction	Means of establishment	Mechanisms of spreading
IMS is transferred into the field, becomes established and spreads	IMS within biofouling on vessels dislodged to the seabed IMS within biofouling on equipment that is routinely submerged in water, and which is dislodged to the seabed	Suitable habitat and conditions available for IMS in field.	Once established, IMS may spread by itself if conditions are suitable. In field equipment may provide connectivity allowing spread across infrastructure. Other anthropogenic influence (e.g., fishing) could spread established IMS within and outside of the field.
IMS is transferred between vessels, establishes on vessels and is spread to other areas (e.g., ports)	Discharge of ballast water containing IMS.	Suitable habitat and conditions available for IMS on vessels and within ballast and seawater systems.	IMS spreads between ports and other facilities via vessels acting as a vector.
IMS is transferred out of the field, becomes established at locations inside or outside the region and spreads.	Already established populations of IMS within the offshore field via natural or anthropogenic influences are recovered with equipment and dislodged whilst being transferred to shore.	Suitable habitat and conditions available for IMS at shoreside facilities.	Once established, IMS may spread by itself if conditions are suitable. May become established on structures at ports, and from there spread to vessels which then become a vector for the spread of IMS.

6.6.2 Aspect Characterisation

6.6.2.1 IMS associated with vessels and project equipment

Since the DAFF (and predecessors) introduction of mandatory ballast water regulations, where ballast water must be exchanged outside territorial sea (12 Nm off the Australian coast, including islands), the risk of IMS from international shipping has been greatly reduced. Therefore, the risk of IMS introduction into territorial

waters from international shipping should be negligible to low. Domestic ships that discharge or exchange water at any Australian port have variable risk ratings depending on where the ballast water was last acquired.

DAWR (2017) suggest that biofouling has been responsible for more foreign marine introductions than ballast water and provides guidelines as to the management of IMS from biofouling (Marine Pest Sectoral Committee 2009). For the activities, vessels and equipment may be sourced internationally and domestically. During the activity, vessels will transit between the operational area and domestic ports. Any vessel has the potential to host IMS. There will be periods where project and 3rd party vessels move in close proximity, for example, at port, where there may be potential for IMS to translocate from one vessel to another, for example, through ballast exchange, or dislodged biofouling, if vessels are not managed appropriately.

6.6.2.2 IMS already established in the region

A variety of IMS has established within ports around Australia. Even within the same region, different ports typically host a different mix of established IMS (<https://www.marinepests.gov.au/pests/map>, Australian Government 2019; Parks Victoria 2019). Ports are often suitable for establishment of IMS because they are regularly exposed to IMS from many different vessels that may lay-up for long periods of time. Ports also typically have shallow areas and hard structures which provide suitable substrate for establishment. IMS can be translocated from a port in either vessel ballast or as biofouling.

Table 6-23 compares known IMS across domestic locations relevant to the operational and layup history of the Ocean Monarch and support vessels whilst in Australian waters. Whilst the number of IMS potentially occurring within Australian waters is extensive, the list below is compiled from the known IMS listings on the Australian Government Marine Pest website, IMS listed as of most concern on the Victorian Parks website (Australian Government 2019; Parks Victoria 2019) and advice from State Government Biosecurity dept.

Table 6-23: Comparison of known IMS in key Domestic Ports (State waters) servicing offshore operations

Location	Dampier and Port Headland (WA)	Fremantle (WA)	Portland Vic (Otway)	Melbourne Vic (Gippsland)
Climatic Region	Subtropical	Temperate	Temperate	Temperate
Species Present (green)				
Asian Shore Crab				
Asian Date or Bag Mussel				
European Fan Worm				
European Green Shore Crab				
New Zealand Screw Shell				
Northern Pacific Sea Star				
Colonial Sea Squirt				

Advice from the Victorian Government DJSIR indicated NZ Screw Shell and Pacific Oyster are also established in the Gippsland Region (Pers comms DJPR 2019).

Prior to and during operations, the Cooper Energy IMS Risk Management Protocol will be implemented for all vessels and submersible equipment and will consider all regions of operation prior to the campaign (international and domestic). Further information on the IMS Risk Management Protocol is provided within Section 10.9.

6.6.3 Predicted Environmental Impact (Consequence)

The potential impacts and risk events associated with of IMS introduction (assuming their survival, colonisation and spread) include:

- Displacement or reduction in native marine species diversity and abundance causing changes to conservation values of protected areas.
- Displacement of native marine species

- Socio-economic impacts on commercial fisheries
- Changes to conservation values of protected areas.

6.6.4 Impact and Risk Evaluations

6.6.4.1 Risk Event: Displacement or reduction in native marine species diversity and abundance causing changes to conservation values of protected areas

Inherent Consequence Evaluation

The introduction of an IMS can have a range of impacts on the receiving environment and can potentially alter the ecosystem dynamics of an area. Due to the complexity of ecosystems and level of interactions between and amongst biotic and abiotic receptors; there is no sure way to predict how an individual species may interact with a foreign environment.

Once an IMS is established, its level of invasiveness and ecosystem damage is determined by a range of factors detailed above. IMS have the potential to change ecosystem dynamics by competing for natural resources, reducing the availability of natural resources, predation, change natural cycling processes, segregation of habitat, spread of viruses, change in water quality, producing toxic chemicals, disturb, injure or kill vital ecosystem organisms (ecosystem engineers and keystone species), change surrounding ecosystems, change conservation values of protected areas and create new habitats.

IMS have proven economically damaging to areas where they have been introduced and established, particularly as IMS are difficult to eradicate from areas once established (Hewitt et al, 2002). If the introduction is captured early, eradication may be effective but is likely to be expensive, disruptive and, depending on the method of eradication, harmful to other local marine life. It has been found that highly disturbed nearshore environments (such as marinas) are more susceptible to colonisation than open-water environments, where the number of dilutions and the degree of dispersal are high (Paulay, *et al.* 2002).

Predicted impacts from IMS if introduced to the operational area could affect marine fauna and benthic habitats that may utilise the operational area and protected marine areas present in the wider region. However, the operational area benthic habitat is typical of the broader area at this water depth, and it does not intersect Australian Marine Parks.

If IMS were transferred between support vessels whilst working within the operational area and IMS is spread, there is the potential for local impacts to receptors where IMS has become established, including benthic communities, listed marine fish species, coastal and offshore industry. These potential impacts extend beyond the operational area and drive a consequence Level 4.

Inherent Likelihood

Any IMS introduced to the operational area would be expected to remain fragmented and isolated, and only within the vicinity of the infrastructure. The chances of successful colonisation inside the operational area are considered small given:

- The subsea infrastructure is distant from major ports where there is a higher risk of IMS transfer.
- The activities which have the potential to introduce IMS (vessel IMR) are infrequent and relatively short in duration.
- Subsea equipment such as ROVs and baskets deployed to seabed during IMR activities are maintained clean to reduce the potential for IMS transfer.

The likelihood of IMS becoming established within the operational area as a result of the activities is considered Remote (E).

The transfer of IMS between vessels within the operational area, and which may then become established elsewhere is also considered here. A number of factors reduce the chance of IMS translocating between vessels:

- The offshore environment within the Otway region is highly dispersive, and vessels will be frequently moving; these conditions are not typically conducive to the establishment of marine organisms onto a new surface
- There are a number of international and national management measures which already manage the potential introduction of IMS.

The likelihood of the transfer of IMS between vessels within the operational area, and which may then become established elsewhere, as a result of the activities is considered **Remote (E)**.

Inherent Risk Severity

The inherent risk severity of IMS causing displacement or reduction in native marine species diversity and abundance is considered **Moderate**.

6.6.4.2 Risk: Socio-economic impacts on commercial fisheries

Inherent Consequence Evaluation

IMS have proven economically damaging to areas where they have been introduced and established, particularly as IMS are difficult to eradicate from areas once established (Hewitt et al, 2002). If the introduction is captured early, eradication may be effective but is likely to be expensive, disruptive and, depending on the method of eradication, harmful to other local marine life. It has been found that highly disturbed nearshore environments (such as marinas) are more susceptible to colonisation than open-water environments, where the number of dilutions and the degree of dispersal are high (Paulay, *et al.* 2002).

IMS can have a primary and/or secondary impact on socio economic receptors. Primary impacts include direct damage to vessels, equipment and infrastructure which may then cause flow on affects and lead to a reduction in efficiency, productivity and profit. The presence of fouling organisms within a marine environment is likely to have the same or similar impacts to socio-economic receptors.

Secondarily, ecological impacts associated with IMS introduction may have an impact to socio-economic receptors through reduction in ecological values. Marine pest species can deplete fishing grounds and aquaculture stock, with between 10% and 40% of Australia's fishing industry being potentially vulnerable to marine pest incursion. For example, the introduction of the Northern Pacific Seastar (*Asterias amurensis*) in Victorian and Tasmanian waters was linked to a decline in scallop fisheries (Dommissie and Hough 2004).

Predicted impacts from IMS if introduced to the operational area could affect marine fauna, benthic habitats, and commercial fisheries that may utilise the operational area and protected marine areas present in the wider region. As described in Section 4.4.2, eleven managed fisheries were identified, of which three have recorded fishing efforts. Habitats for these resources exist across the area, any colonisation of IMS in the area around the Otway offshore facilities are unlikely to represent a limited resource for native species.

If IMS were transferred between vessels whilst working within the operational area, IMS could be translocated and introduced to other local areas beyond the operational area; ports and other offshore industry could potentially be exposed through both ballast and biofouling. If an IMS is spread, there is the potential for local impacts to receptors where IMS has become established, including benthic communities, listed marine fish species, coastal and offshore industry. These potential impacts beyond the operational area drive a consequence **Level 4**.

Inherent Likelihood

The likelihood of IMS becoming established within the operational area as a result of the activities is considered **Remote (E)**.

Inherent Risk Severity

The inherent risk severity of IMS causing impacts to socio-economic receptors is considered **Moderate**.

6.6.5 Control Measures, ALARP and Acceptability Assessment

Table 6-24 provides a summary of the control measures and ALARP and Acceptability Assessment relevant to introduction, establishment and spread of IMS.

Table 6-24: Introduction, Establishment and Spread of IMS Control Measures, ALARP and Acceptability Assessment

Invasive Marine Species	
ALARP decision context and justification	ALARP Decision Context: Type B The introduction, establishment and spread of IMS has been assigned a Level 4 consequence; the likelihood of this consequence occurring is considered Remote.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		The causes resulting in an introduction of IMS from a planned release of ballast water or vessel, or equipment biofouling are well understood and effectively managed by international and national requirements and industry guidance. Cooper Energy and their offshore service partners are experienced in industry requirements and their operational implementation through their existing ongoing operations. No objections or concerns were raised during stakeholder consultation regarding this activity or its potential impacts and risks. Based on a Moderate risk severity, Cooper Energy believes ALARP Decision Context B should apply.				
Control Measures		Sources of Good Practice Control Measures				
CM19: Cooper Energy IMS Risk Management Protocol (CMS-EN-PCD-0002)		The National biofouling management guidelines for the petroleum production and exploration industry (DAFF 2009) recommend a biofouling risk assessment is undertaken for vessel, where necessary, conducting in water inspection, cleaning and antifouling renewal. These guidelines should also be read in conjunction with the Anti-fouling and In-water Cleaning Guidelines (DoA 2015). In line with these recommendations Cooper Energy uses an IMS Risk Assessment to evaluate IMS risks. Prior to and during operations the Cooper Energy IMS Risk Management Protocol will be implemented for all vessels and submersible equipment and will consider all regions visited by the facilities (international and domestic). The Cooper Energy IMS Risk Management Protocol has been prepared to align with: • Advice from the Victorian Government Marine Biosecurity Section. • National biofouling management guidelines for the petroleum production and exploration industry (DAFF 2009) • Australia Biofouling Management Requirements (DAWE 2022) • Guidelines for the control and management of a ships' biofouling to minimise the transfer of invasive aquatic species (IMO Biofouling Guidelines; IMO 2011). • Reducing marine pest biosecurity risks through good practice management Information paper (NOPSEMA 2020) Further information on the Cooper Energy IMS Risk Management Protocol is provided within Section 10.9.				
Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion
Utilise local vessels only	Introduction of IMS	Through utilising local vessels, the risk of introducing an IMS from an outside source is prevented.	No. There is a standard suite of management measures to manage this risk (as detailed in Coopers IMS Risk Management Protocol) – the use of local vessels is not one of these.	Through specifying local vessels only, this drastically restricts the types of vessels that can be used which would result in potentially both schedule and financial costs. Some IMR activities may be impossible with local vessels only.	None.	Reject. Rationale: the project cost (operational and schedule constraints) this would implement is too high. Further to this, if no local vessels are identified as being suitable to complete this activity in the future, then further assessment

						would be required. Given this management measure removes operational flexibility, the costs are grossly disproportionate to the level of risk reduction achieved.
Impact and risk summary						
Residual Impact Consequence	NA					
Residual Risk Consequence	Level 4: Extensive medium to long-term impact on highly valued ecosystems, species populations or habitats.					
Residual Risk Likelihood	Remote: A combination of factors would be required for an occurrence. Not expected to occur during the activity. Occur in exceptional circumstances.					
Residual Risk Severity	Moderate					
Demonstration of Acceptability						
Principles of ESD	Introduction, establishment and spread of IMS is evaluated as having Level 4 consequence which has the potential to result in serious or irreversible environmental damage. With the established processes in place, there is little residual uncertainty associated with this aspect as the activities are well known, the cause pathways are well known, and activities are well regulated and managed. It is not considered that there is significant scientific uncertainty associated with this aspect. Therefore, the precautionary principle has not been applied beyond the precautionary measures already integrated into the IMS protocol.					
Legislative and Conventions	The control measures proposed to manage this risk are meet the following requirements: • Biosecurity Act 2015 (Cwth) - Chapter 5, Part 3 (Management of discharge of ballast water) & Chapter 4 (Managing biosecurity risks) • International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004 (the BWMC) • Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 • AMSA Marine Order 98: Marine Pollution Prevention - Anti-fouling Systems. • Environment Protection Act 1970 (Vic) • Environment Protection (Ships Ballast Water) Regulations 2006 • Australian Ballast Water Management Requirements (DAFF 2020) • Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (IMO 2011) • National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (CoA 2009) • Australia Biofouling Management Requirements (DAWE 2022) • Marine Pest Plan 2018 – 2023: National Strategic Plan for Marine Pest Biosecurity					
Internal context	The environmental controls proposed reflects Cooper Energy's HSEC Policy commitment to take all reasonably practicable steps to protect the health and safety of workers, contractors,					

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	partners, and communities, and ensuring its business is conducted in an environmentally responsible manner. Relevant management system processes adopted to implement and manage hazards to ALARP include: • MS03 – Risk Management • MS09 - Health, Safety and Environment Management • MS11 – Supply Chain and Procurement Management
External context	No stakeholder objections or claims have been received regarding IMS.
Acceptability outcome	Acceptable

6.7 Accidental Hydrocarbon Release

Accidental hydrocarbon releases to the environment could include both gas and liquid hydrocarbons.

This section addresses the higher order (most severe or worst-case) spill scenarios. For condensate, a Worst-Case Discharge (WCD) has been modelled based on possible future drilling of the Annie-2 well, which is not in the scope of this EP. Although not in scope, this modelling scenario has been adopted as a conservative analogue for this EP to account for smaller loss of containment (LOC) scenarios which are in scope and assessed in Table 6-25. The Annie-2 WCD modelling output is considered a conservative analogue for operations scenarios and will inform impact and risk assessments as well as planning. The use of this modelling scenario is considered representative but conservative because:

- The hydrocarbon properties between Annie-2 and the existing CHN wells are similar (described in Section 3.5.2).
- The location of Annie-2 is in the same area as existing CHN wells and located approximately 14 km from the nearest CHN well (Casino-5). Additionally, it is closer to the shoreline than existing CHN wells and will therefore provide a conservative time to shoreline impact.
- The Annie-2 well WCD rate is predicted to be 431MMscf/d while the WCD rate of any existing CHN wells (based on known pressures and production data) is approximately 41MMscf/d or below, which is less than 10% of the Annie-2 WCD rate.
- The WCD rate for Annie-2 is based on unconstrained hydrocarbon flow which is not possible during operation due to static barriers. Any flow from an existing CHN well into the environment would be constrained by the subsea production tree. Therefore, a LOC during operations would be expected to be even lower than the WCD rate for existing CHN wells.

LOC – (MDO) and subsea LOC scenarios from subsea infrastructure, pipelines and wells are assessed in Table 6-3. Both scenarios result in a similar size EMBA, and have been captured within the monitoring EMBA defined and assessed within this EP.

6.7.1 Cause of Aspect

Activities associated with the Otway Offshore Operations have the potential to result in an accidental release of hydrocarbons to the marine environment. Guidance on the identification of worst-case credible spill scenarios is given in AMSA's Technical guidelines for preparing contingency plans for Marine and Coastal Facilities (AMSA, 2015) and Technical Report on Calculation of Worst-Case Discharge (SPE, 2016). A range of credible accidental release scenarios are described in Table 6-25.

Table 6-25: Accidental Hydrocarbon Release Types, Causes and Estimated Volumes

Accidental Hydrocarbon Release	Cause of Aspect	Fluid Type and Volume	Release location	Source control response
Accidental release scenarios from infrastructure				
Subsea Well LOC (leak from SST in Cwth waters)	Potential failure scenarios during production (WWC, 2021): - Defective material/bolting - Corrosion - Valve failure - External impact In each scenario, multiple valves / barriers would have to fail for a leak to eventuate. WWC (2021) consider these scenarios unlikely and note that subsurface safety valve (SSSV) failure would have to accompany the tree damage in these scenarios to result in an uncontrolled	Gas / condensate mix. The WCD rate of release from the wells with barriers removed is 41 MMscf/d. There are no situations in which all well barriers would be removed during the operational period. Any release from the	Casino-4 Casino-5 Henry-2 Netherby-1	Initial response by gas plant personnel scaling up through IMT

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Accidental Hydrocarbon Release	Cause of Aspect	Fluid Type and Volume	Release location	Source control response
	release of hydrocarbons. Regular testing of the SSSV during operations would reveal mechanical issues that would cause the SSSV functionality to falter.	well would be a low leak rate via tortuous leak path through subsurface and surface equipment. Nominal rate approx. 100 L/day.		
Subsea Pipeline LOC (subsea leak from pipeline in State or Cwth waters)	Pipeline rupture (external impact, or through corrosion of the pipeline) release over several minutes as system shuts in and pipeline pressure falls to ambient. Flowline contains primarily gas, with approximately 100m ³ condensate distributed along the length of the flowline system. With a single rupture point in the pipeline system, a conservative estimate 50m ³ condensate release as the system shuts in.	Gas / Condensate Estimated 50m ³ condensate	Between HHD exit and Casino-4. Could occur further towards Pecten East end though scenario is less severe due to water depths.	Initial response by gas plant personnel scaling up through IMT
Vessel releases (offshore campaigns in State or Cwth waters)				
Hydraulic line failure	Refer Table 6-3.	1 m ³ of hydraulic fluid	Spill to containment, deck or ocean.	Onsite response.
Vessel LOC – Passing or visiting Vessel Collision with support vessel	Navigational error or loss of position resulting in a high energy collision between a support vessel and another project or third-party vessel could result in hull damage and fuel tank rupture. For the impact assessment the vessel largest fuel tank volume was used as recommended by AMSA's guideline for indicative maximum credible spill volumes for other, non-oil tanker, vessel collision (AMSA 2015). This was assessed to be 250 m ³ of MDO or marine gas oil (MGO). The release was modelled to occur over a 6-hour period, which is considered to be a short (and therefore conservative) approach. Vessel grounding was not assessed as a credible risk. There are no emergent features within the operational area.	250 m ³ of MDO	Surface release within the operational area. Modelling location is Annie-2 well (note: Annie-2 is closer proximity to shore compared to CHN wells and is considered conservative for planning purposes)	Vessel and off-site resources, scaling up through IMT
Other (offshore campaigns in State or Cwth waters)				

Accidental Hydrocarbon Release	Cause of Aspect	Fluid Type and Volume	Release location	Source control response
ROV	Loss of hydraulic fluid	~ 200 L	Release within the operational area.	Operator on vessel
Helicopter crash / ditch in operational area	Equipment malfunction leading to helicopter ditching into ocean. Fuel tank compromised during landing resulting in a release of fuel to sea. Refer Table 6-3.	3 m ³ of Jet A1 (entire fuel tank volume)	Surface release in the operational area	Project and offsite resources.

6.7.2 Aspect Characterisation

6.7.2.1 Quantitative Hydrocarbon Spill Modelling

Quantitative spill modelling was undertaken for the two credible, worst-case spill scenarios:

- Scenario 1 – Subsea Well LOC (10,563 m³ condensate).
 - The scenario was modelled using flow rate data acquired from the drilling of the Annie-1 well which is located ~500m from the planned location of Annie-2. A Response Time Model was utilised to determine the worst-case scenario and is primarily based on the location of rig available to drill the relief well (Table 8-7). Utilising this model, the worst-case and most conservative scenario duration of 104 days was modelled.
 - A total of 100 spill simulations were run and tracked for 118 days. The results for all 100 simulations were combined and are presented on an annual basis.
- Scenario 2 – Surface vessel LOC of 250 m³ over 6 hours as a result of vessels collision, resulting in the loss of fuel. A total of 100 spill simulations were run and tracked for 30 days. The results for all 100 simulations were combined and are presented on an annual basis.

The spill modelling was performed using an advanced three-dimensional trajectory and fates model, Spill Impact Mapping Analysis Program (SIMAP). The SIMAP model calculates the transport, spreading, entrainment and evaporation of spilled hydrocarbons over time, based on the prevailing wind and current conditions, and the physical and chemical properties.

The SIMAP system, the methods and analysis presented herein use modelling algorithms which have been anonymously peer reviewed and published in international journals. Further, RPS warrants that this work meets and exceeds the ASTM Standard F2067-13 “Standard Practice for Development and Use of Oil Spill Models”.

The SIMAP model can track hydrocarbons to levels lower than biologically significant or visible to the naked eye. Therefore, reporting thresholds have been specified (based on the scientific literature) to account for “exposure” on the sea surface and “contact” to shorelines at meaningful levels.

6.7.2.2 Thresholds

Table 6-26 describes the concentration thresholds used in the impact assessment that have been defined for the different exposure types (surface, in-water, shoreline). These impact thresholds and exposure pathways are then applied at a receptor level for use in the consequence evaluations. These thresholds align with the NOPSEMA environmental bulletin ‘Oil Spill modelling’ (NOPSEMA, 2019).

Table 6-26: Justification for Hydrocarbon Impact Thresholds

Exposure Level	Impact Threshold	Justification
Surface Oil		

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Exposure Level	Impact Threshold	Justification
Low	1 g/m ²	The low threshold to assess the potential for floating oil exposure, was 1 g/m ² , which equates approximately to an average thickness of 1 µm, referred to as visible oil. Oil of this thickness is described as rainbow sheen in appearance, according to the Bonn Agreement Oil Appearance Code (Bonn Agreement, 2009; AMSA, 2014). This threshold is considered below levels which would cause environmental harm and it is more indicative of the areas perceived to be affected due to its visibility on the sea surface and potential to trigger temporary closures of areas (i.e., fishing grounds) as a precautionary measure.
Moderate	10 g/m ²	According to French et al. (1996) and French-McCay (2009) ecological impact has been estimated to occur at 10 g/m ² (a film thickness of approximately 10 µm or 0.01 mm). This level of fresh oiling has been observed to mortally impact some birds through adhesion of oil to their feathers, exposing them to secondary effects such as hypothermia. The appearance of oil at this average thickness has been described as a metallic sheen (Bonn Agreement, 2009).
High	50 g/m ²	Scholten et al. (1996) and Koops et al. (2004) indicated that at oil concentrations on the sea surface of 25 g/m ² (or greater), would be harmful for all birds that have landed in an oil film due to potential contamination of their feathers, causing secondary effects such as loss of temperature regulation and ingestion of oil through preening. The appearance of oil at this thickness is also described as metallic sheen (Bonn Agreement, 2009). For this study the high exposure threshold was set to 50 g/m ² and above based on NOPSEMA (2019). Further, this threshold can also be used to inform response planning.
Shoreline		
Low	10 g/m ²	There are many different types of shorelines, ranging from cliffs, rocky beaches, sandy beaches, mud flats and mangroves, and each of these influences the volume of oil that can remain stranded ashore and its thickness before the shoreline saturation point occurs. For instance, a sandy beach may allow oil to percolate through the sand, thus increasing its ability to hold more oil ashore over tidal cycles and various wave actions than an equivalent area of water; hence oil can increase in thickness onshore over time. A sandy beach shoreline was assumed as the default shoreline type for the modelling herein, as it allows for the highest carrying capacity of oil (of the available open/exposed shoreline types). Hence the results contained herein would be indicative of a worst-case scenario, where the highest volume of oil may be stranded on the shoreline (when compared to other shoreline types, such as exposed rocky shores). In previous risk assessment studies, French-McCay <i>et al.</i> (2005a; 2005b) used a threshold of 10 g/m ² to assess the potential for shoreline contact. This threshold is used to define regions of socio-economic impact, such as triggering temporary closures of adjoining fisheries. This threshold value equates to approximately two teaspoons of hydrocarbon per square meter of shoreline contacted. The appearance is described as a stain/film. On that basis, the 10 g/m ² shoreline contact threshold has been selected to define the zone of potential "low shoreline contact".
Moderate	100 g/m ²	French et al. (1996) and French-McCay (2009) define a shoreline oil accumulation threshold of 100 g/m ² , or above, would potentially harm shorebirds and wildlife (furbearing aquatic mammals and marine reptiles on or along the shore) based on studies for sub-lethal and lethal impacts. This threshold has been used in previous environmental risk assessment studies (see French-McCay, 2003; French-McCay et al., 2004, French-McCay et al., 2011; 2012; NOAA, 2013). Additionally, a shoreline concentration of 100 g/m ² , or above, is the minimum limit that the oil can be effectively cleaned according to the AMSA (2015) guideline. This threshold equates to approximately ½ a cup of oil per square meter of shoreline accumulation. The appearance is described as a thin oil coat. Therefore, 100 g/m ² has been selected to define the zone of potential "moderate shoreline accumulation".
High	>1000 g/m ²	Observations by Lin & Mendelssohn (1996) demonstrated that loadings of more than 1,000 g/m ² of hydrocarbon during the growing season would be required to impact marsh plants significantly. Similar thresholds have been found in studies assessing hydrocarbon impacts on mangroves

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Exposure Level	Impact Threshold	Justification
		(Grant et al., 1993; Suprayogi & Murray, 1999). Hence, 1,000 g/m ² has been selected to define the zone of potential “high shoreline accumulation”. It equates to approximately 1 litre of hydrocarbon per square meter of shoreline accumulation. The appearance is described as a hydrocarbon cover.
In-water – Dissolved		
Low (Sublethal Effect)	10 ppb	Laboratory studies have shown that dissolved hydrocarbons exert most of the toxic effects of oil on aquatic biota (Carls et al., 2008; Nordtug et al., 2011; Redman, 2015). The mode of action is a narcotic effect, which is positively related to the concentration of soluble hydrocarbons in the body tissues of organisms (French-McCay, 2002). Dissolved hydrocarbons are taken up by organisms directly from the water column by absorption through external surfaces and gills, as well as through the digestive tract. Thus, soluble hydrocarbons are termed “bioavailable”.
Moderate (Lethal Effect for Sensitive Species)	50 ppb	Hydrocarbon compounds vary in water-solubility and the toxicity exerted by individual compounds is inversely related to solubility, however bioavailability will be modified by the volatility of individual compounds (Nirmalakhandan & Speece, 1988; Blum & Speece, 1990; McCarty, 1986; McCarty et al., 1992a, 1992b; Mackay et al., 1992; McCarty & Mackay, 1993; Verhaar et al., 1992, 1999; Swartz et al., 1995; French-McCay, 2002; McGrath and Di Toro, 2009). Of the soluble compounds, the greatest contributor to toxicity for water-column and benthic organisms are the lower-molecular-weight aromatic compounds, which are both volatile and soluble in water. Although they are not the most water-soluble hydrocarbons within most oil types, the polynuclear aromatic hydrocarbons (PAHs) containing 2-3 aromatic ring structures typically exert the largest narcotic effects because they are semi-soluble and not highly volatile, so they persist in the environment long enough for significant accumulation to occur (Anderson et al., 1974, 1987; Neff & Anderson, 1981; Malins & Hodgins, 1981; McAuliffe, 1987; NRC, 2003). The monoaromatic hydrocarbons (MAHs), including the BTEX compounds (benzene, toluene, ethylbenzene, and xylenes), and the soluble alkanes (straight chain hydrocarbons) also contribute to toxicity, but these compounds are highly volatile, so that their contribution will be low when oil is exposed to evaporation and higher when oil is discharged at depth where volatilisation does not occur (French-McCay, 2002).
High (Lethal Effect for Less Sensitive Species)	400 ppb	French-McCay (2002) reviewed available toxicity data, where marine biota was exposed to dissolved hydrocarbons prepared from oil mixtures, finding that 95% of species and life stages exhibited 50% population mortality (LC50) between 6 and 400 ppb total PAH concentration after 96 hrs exposure, with an average of 50 ppb. Hence, concentrations lower than 6 ppb total PAH value should be protective of 97.5% of species and life stages even with exposure periods of days (at least 96 hours). Early life-history stages of fish appear to be more sensitive than older fish stages and invertebrates. Exceedances of 10, 50 or 400 ppb over a 1-hour timestep were applied to indicate increasing potential for sub-lethal to lethal toxic effects (or low to high), based on NOPSEMA (2019).
In-water – Entrained		
Low (Sublethal Effect)	10 ppb	Entrained hydrocarbons consist of oil droplets that are suspended in the water column and insoluble. As such, insoluble compounds in oil cannot be absorbed from the water column by aquatic organisms, hence are not bioavailable through absorption of compounds from the water. Exposure to these compounds would require routes of uptake other than absorption of soluble compounds. The route of exposure of organisms to whole oil alone include direct contact with tissues of organisms and uptake of oil by direct consumption, with potential for biomagnification through the food chain (NRC, 2005).
High (Lethal Effect for Less Sensitive Species)	100 ppb	The 10-ppb threshold represents the very lowest concentration and corresponds generally with the lowest trigger levels for chronic exposure for entrained hydrocarbons in the ANZECC & ARMCANZ (2000) water quality guidelines. Due to the requirement for relatively long exposure times (> 24 hours) for these concentrations to be significant, they are likely to be more meaningful

Exposure Level	Impact Threshold	Justification
		for juvenile fish, larvae and planktonic organisms that might be entrained (or otherwise moving) within the entrained plumes, or when entrained hydrocarbons adhere to organisms or trapped against a shoreline for periods of several days or more. This exposure zone is not considered to be of significant biological impact and is therefore outside the adverse exposure zone. This exposure zone represents the area contacted by the spill. This area does not define the area of influence as it is considered that the environment will not be affected by the entrained hydrocarbon at this level. Thresholds of 10 ppb and 100 ppb were applied over a 1-hour time exposure (Table 6-4), to cover the range of thresholds outlined in ANZECC & ARMCANZ (2000) water quality guidelines, the incremental change for greater potential effect and is per NOPSEMA (2019). A complicating factor that should be considered when assessing the consequence of dissolved and entrained oil distributions is that there will be some areas where both physically entrained oil droplets and dissolved hydrocarbons co-exist. Higher concentrations of each will tend to occur close to the source where sea conditions can force mixing of relatively unweathered oil into the water column, resulting in more rapid dissolution of soluble compounds.

Source: RPS, 2022 as referenced in NOPSEMA, 2019.

6.7.2.3 Weathering and Fate

A series of model weathering tests were conducted to illustrate the potential behaviour of the MDO and condensate when exposed to idealised and representative environmental conditions. The modelling report commissioned by Cooper Energy and produced by RPS report in is located in Appendix 5. Findings are summarised below:

The mass balance for the MDO under constant 5 knot winds show that 34.3% of the oil will evaporate within 24 hours (Figure 6-7). Under calm conditions, the majority of the remaining oil on the water surface will weather at a slower rate as it is comprised of low volatile, longer-chain compounds. Under variable-wind conditions where winds are of greater strength on average, entrainment of MDO into the water column is shown to increase (Figure 6-8). Approximately 24 hours after the spill, 83.1% of the oil is shown to have entrained and a further 11.4% is shown to have evaporated, leaving only a small proportion of the oil floating on the water surface (1.3%). The increased level of entrainment during variable-winds results in a higher percentage of decay at an approximate rate of 3% per day, compared to 0.4% per day during constant-winds.

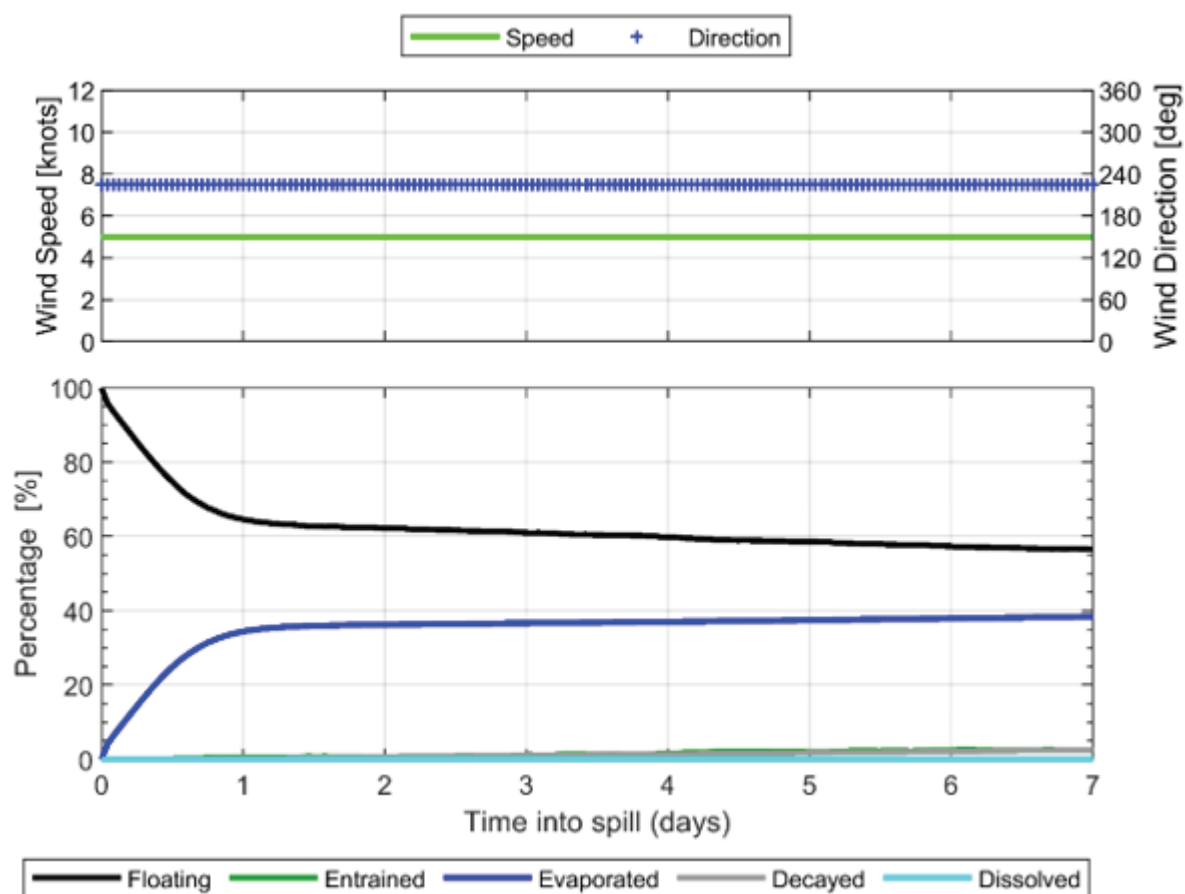


Figure 6-7: Proportional mass balance plot representing the weathering of MDO spilled onto the water surface over 1 hour and subject to a constant 5 knots wind speed at 15°C water temperature

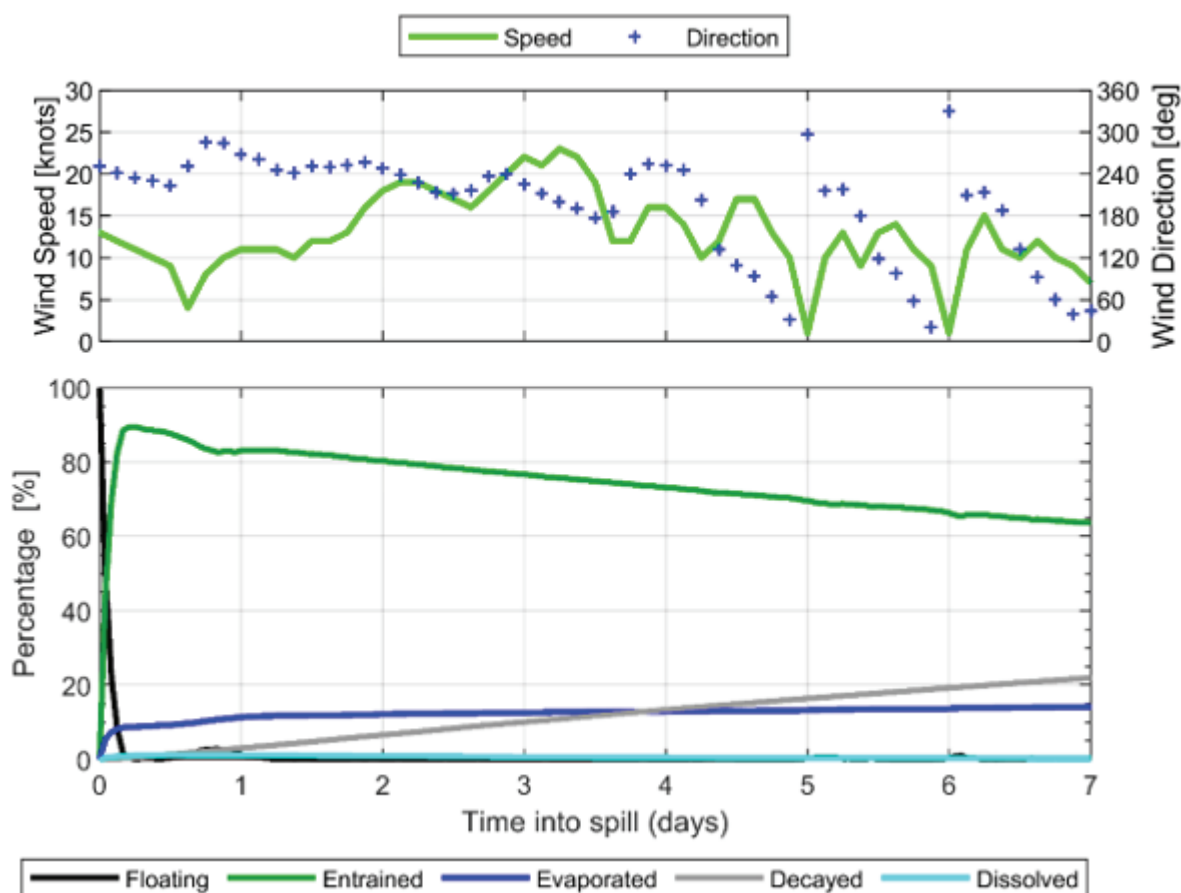


Figure 6-8: Proportional mass balance plot representing the weathering of MDO spilled onto the water surface over 1 hour and subject to a variable wind speeds at 15°C water temperature

The mass balance for condensate under constant 5 knot winds show that 87.3% of condensate is expected to evaporate within 24 hours (Figure 6-9). Under calm conditions, the majority of the remaining condensate on the water surface will weather at a slower rate as it is comprised of less volatile, longer-chain compounds. Evaporation shall cease when only the residual compounds remain. Under variable-winds where winds are of greater strength on average, entrainment of condensate into the water column is shown to increase (Figure 6-10). Approximately 24 hours after the spill, 29.1% of the mass is shown to have entrained and a further 66.5% has evaporated, leaving only a small proportion floating on the water surface (<0.1%). The increased level of entrainment during variable-winds results in a higher percentage decaying at an approximate rate of 1.6% per day, compared to <0.1% per day for constant-winds.

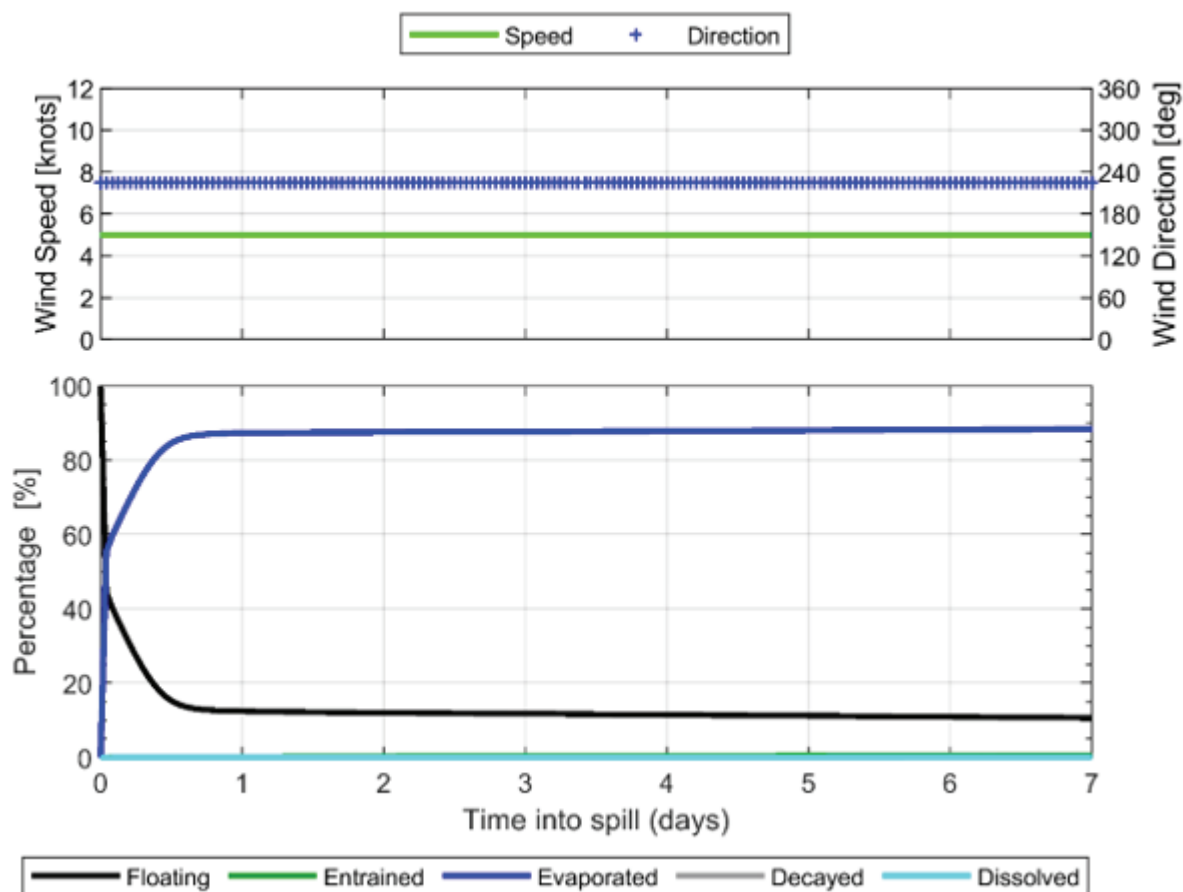


Figure 6-9: Proportional mass balance plot representing the weathering of condensate spilled onto the water surface over 1 hour and subject to a variable wind speeds at 15°C water temperature

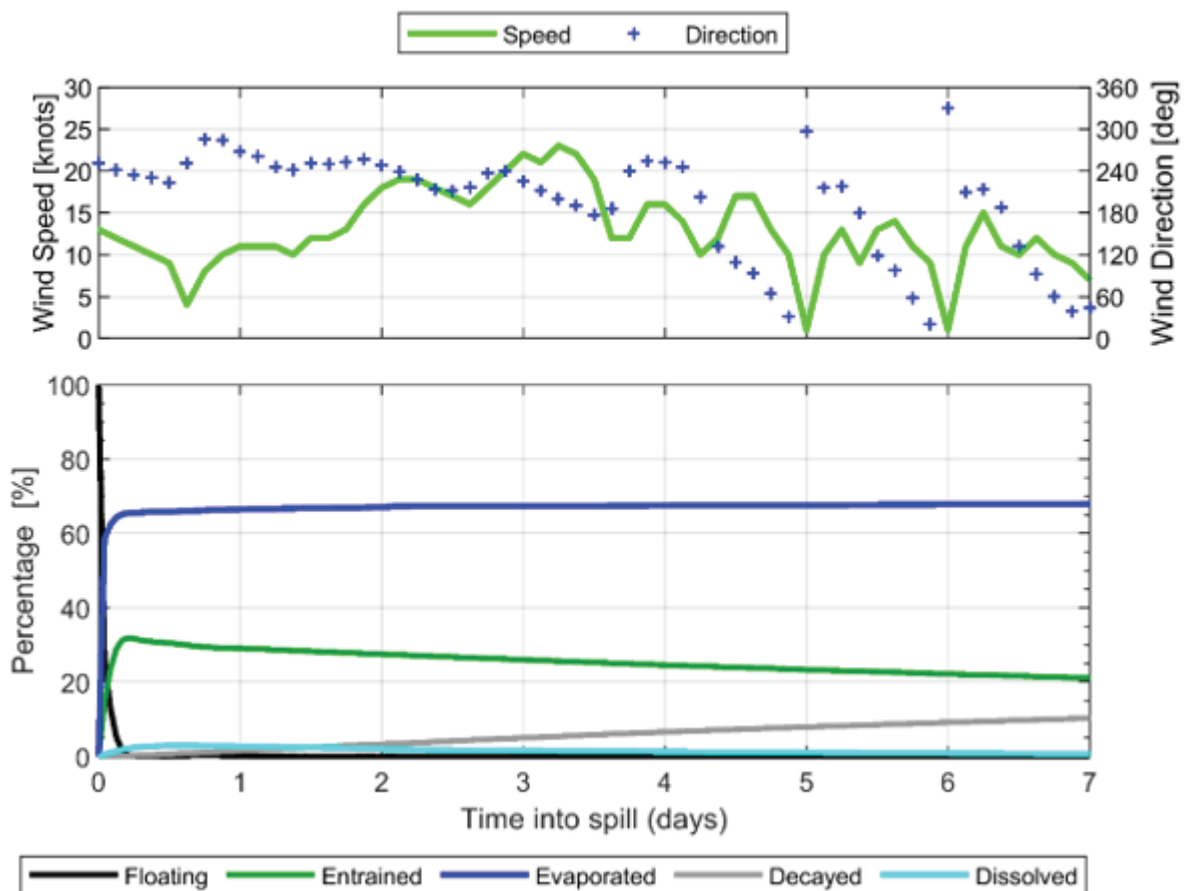


Figure 6-10: Proportional mass balance plot representing the weathering of condensate spilled onto the water surface over 1 hour and subject to a variable wind speeds at 15°C water temperature

6.7.2.4 Modelling Outputs

Below are scenario summaries of the results from the modelling report provided in Appendix 5 for LOC – MDO and LOC – Condensate.

Vessel LOC – MDO

Below is a summary of the results from the stochastic modelling undertaken for a Vessel LOC caused by vessel collision and outline the area potentially exposed to hydrocarbons.

Surface Exposure (Figure 6-11)

- The maximum distance travelled by floating oil on the sea surface at each threshold. The maximum distance from the release location to the low (1–10 g/m²), moderate (10–50 g/m²) and high (> 50 g/m²) exposure zones was 32.5 km (west), 10.3 km (west) and 2.8 km (east-southeast), respectively.
- A total of 13 Biologically Important Areas (BIAs) were predicted to be exposed to floating oil at, or above, the low threshold. These BIA's all overlap the operational area.
- The Warrnambool Plain IBRA, Twelve Apostles MNP, Corangamite LGA and Moonlight Head sub-LGA recorded a probability of low floating oil exposure of 2%.

Shoreline Exposure

- The probability of accumulation to any shoreline at, or above, the low (10 g/m²) threshold was 60%. The minimum time before oil accumulation at, or above, the low threshold was 22 hours. The maximum total volume ashore for a single spill trajectory was 43.2 m³, and the maximum length of shoreline with accumulation above the low, moderate and high thresholds were 32 km, 11 km and 1 km, respectively.

- The shoreline segment of Corangamite had the highest probability of accumulation above all three thresholds. The minimum time for low threshold shoreline accumulation was less than 1 day for several shoreline segments and Sub-LGAs.

In-water Exposure – Dissolved

At the surface (0-10m) depth layer:

- A total of 14 BIAs were predicted to be exposed to dissolved hydrocarbon at, or above, the low threshold. Excluding the 13 BIAs that the release location resides within, low threshold dissolved hydrocarbons were predicted (low probability of <2%) within Short-tailed Shearwater – Foraging BIA.
- Additionally, the Twelve Apostles MNP recorded a probability of low dissolved hydrocarbon exposure of 1%.
- The maximum dissolved hydrocarbon concentration at any given receptor(s) was shown to be 77 ppb.

In-water Exposure – Entrained

At the surface (0-10m) depth layer:

- The highest probability of low entrained hydrocarbon exposure was recorded for the Twelve Apostles MNP (65%) and Short-tailed Shearwater – Foraging BIA (64%). Additional receptors including LGAs, sub-LGAs, IBRAs and AMPs were predicted with entrained hydrocarbon exposure.

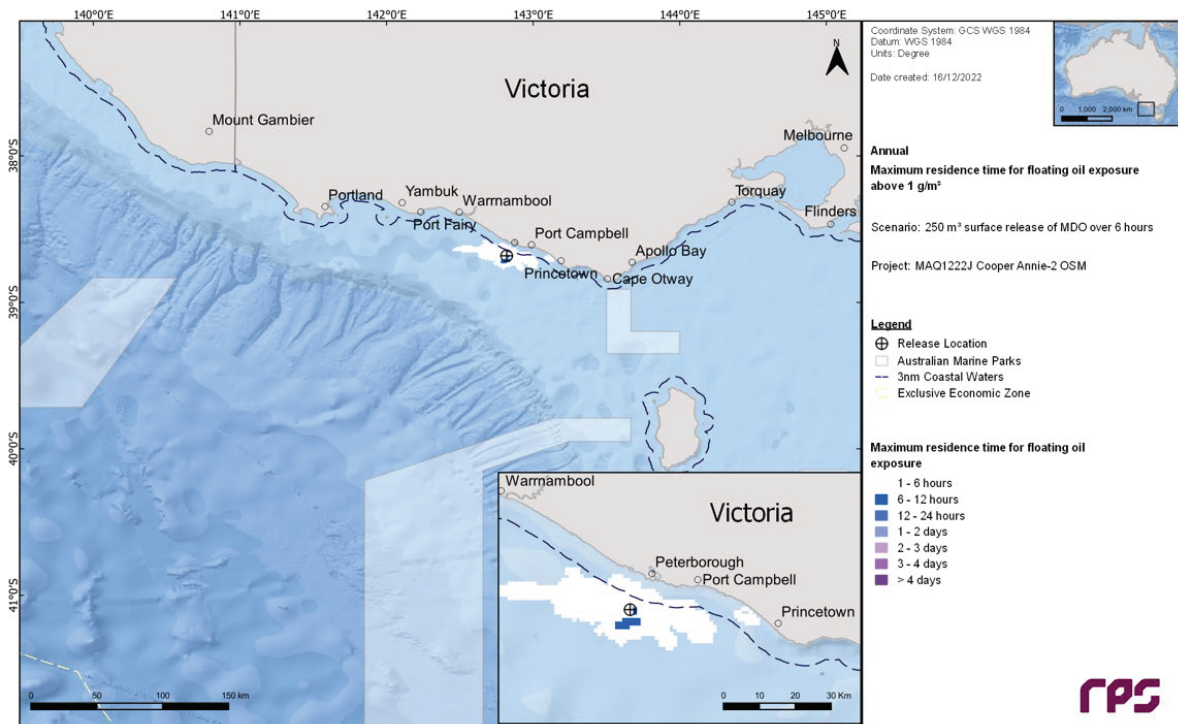


Figure 6-11: Maximum residence time of oil exposure on the sea surface for low threshold (1 g/m^2) in the event of a 250m^3 surface release of MDO over 6 hours, tracked for 30 days. The results were calculated from 100 spill simulations.

Subsea Well LOC – Condensate

Stochastic analysis

Below is a summary of the results from the stochastic modelling undertaken for a Subsea Well LOC during well construction activities and outline the area potentially exposed to hydrocarbons.

Surface Exposure (Figure 6-12)

- The maximum distance from the release location to the low ($1\text{--}10 \text{ g/m}^2$) exposure zones was 11.6 km (east-southeast). There was no floating oil exposure observed above the moderate and high thresholds.

- No receptors outside of the ones that contain the release location were predicted with floating oil exposure.

Shoreline Exposure

- The probability of accumulation to any shoreline at, or above, the low level (10 g/m²) threshold was 100%. The minimum time before oil accumulation at, or above, the low threshold was 2.3 days. The maximum total volume ashore for a single spill trajectory was 103.2 m³, and the maximum length of shoreline accumulation at the low, moderate and high thresholds was 93 km, 21 km and 1 km, respectively.
- The shoreline segment of Corangamite had the highest probability of accumulation above all three thresholds. The minimum time for low threshold shoreline accumulation was 2.3 days.

In-water Exposure

Dissolved

At the surface (0-10m) depth layer:

- A total of 18 BIAs were predicted to be exposed to dissolved hydrocarbons at, or above, the low threshold. Excluding the 13 BIAs that the release location resides within, the highest probability of low exposure ranged between 1% (Australasian Gannet - Foraging) and 68% (Short-tailed Shearwater - Foraging).
- Additionally, the Twelve Apostles MNP recorded a probability of low dissolved hydrocarbon exposure of 70%.
- The maximum dissolved hydrocarbon concentration at any given receptor(s) was shown to be approximately 62 ppb.

Entrained

At the surface (0-10m) depth layer:

- The highest probability (100%) of low entrained hydrocarbon exposure was recorded for a range of receptors including the Twelve Apostles MNP, Port Campbell, Moonlight Head and Bay of Islands sub-LGAs, Short-tailed Shearwater – Foraging BIA. Additional receptors including LGAs, sub-LGAs, IBRAs and AMPs were predicted with entrained hydrocarbon exposure.

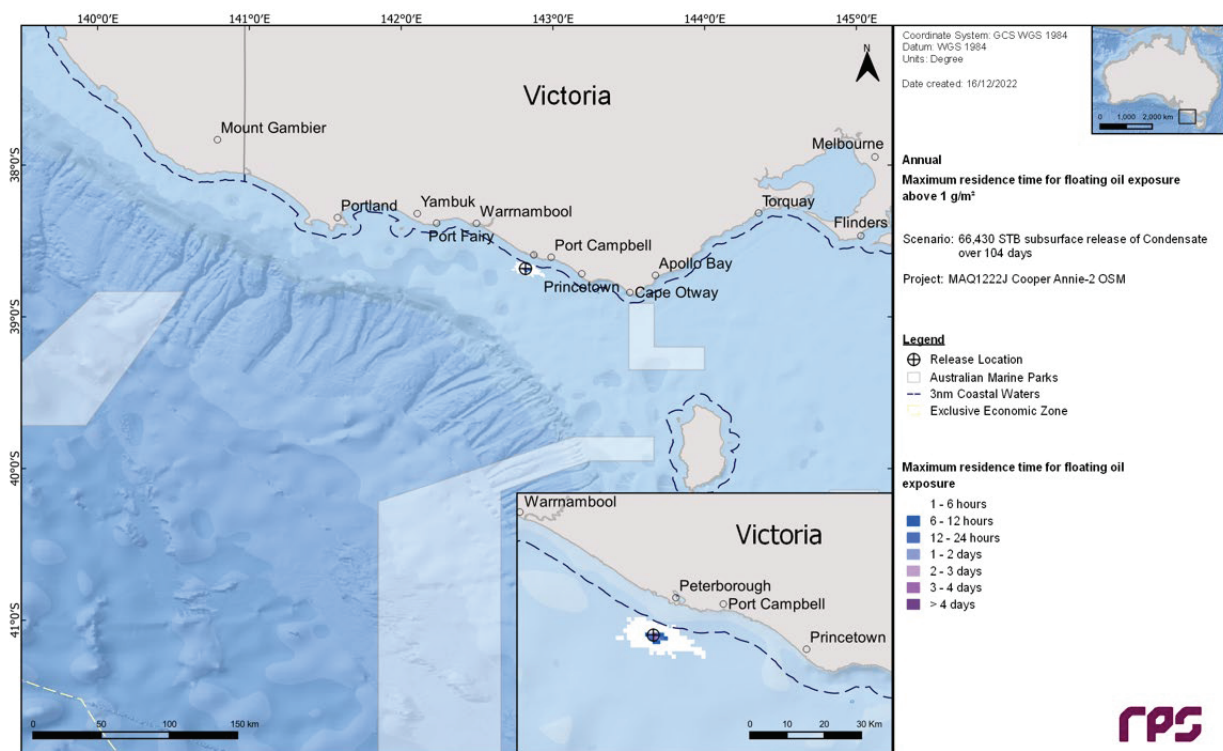


Figure 6-12: Maximum residence time of oil exposure on the sea surface, in the event of a 10,563 m³ subsea release of condensate over 104 days at the Annie-2 release site, tracked for 118 days. The results were calculated from 100 spill simulations.

Deterministic analysis

Deterministic analysis was used to assess the impact of the individual simulations considered to have the greatest impact on the environment. The scenarios were selected and presented based on a variety of criteria detailed in Table 6-27.

Table 6-27: Summary of deterministic modelling outcomes for a surface release of MDO and a subsurface release of condensate

Deterministic Analyses Criteria	Vessel LOC - Modelling Outcomes	Subsea Well LOC - Modelling Outcomes
The largest swept area for surface oil above 10 g/m ²	The maximum area of exposure on the sea surface at the visible hydrocarbon threshold (10 g/m ²) scenario reached its peak within the first day and was approximately 29 km ² .	There was no exposure to surface oil above 10 g/m ² .
The largest swept area for surface oil above 50 g/m ²	The maximum area of exposure on the sea surface at the visible hydrocarbon threshold (50 g/m ²) scenario reached its peak within the first day and was approximately 5 km ² .	There was no exposure to surface oil above 50 g/m ² .
The greatest total volume of oil ashore	The largest total volume of oil exposure ashore was 43 m ³ which occurred over 9 days.	The largest total volume of oil exposure ashore was 103 m ³ which occurred over 106 days.
The longest length of shoreline with oil accumulation above 100g/m ²	The maximum length of actionable shoreline hydrocarbon (100 g/m ²) was approximately 11 km.	The maximum length of actionable shoreline hydrocarbon (100 g/m ²) was approximately 21 km.
Largest area of entrained hydrocarbon exposure above 100 ppb	The maximum area of entrained hydrocarbon exposure in the water column at the response hydrocarbon threshold (100 ppb) was approximately 636 km ² . Additionally, approximately 52 m ³ remained entrained within the water column at the end of the simulation.	The maximum area of entrained hydrocarbon exposure in the water column at the response hydrocarbon threshold (100 ppb) was approximately 38 km ² . Additionally, approximately 175 m ³ remained entrained within the water column at the end of the simulation.
Largest area of dissolved hydrocarbon exposure above 50 ppb	The maximum area of dissolved hydrocarbon exposure in the water column at the response hydrocarbon threshold (50 ppb) was approximately 2 km ² .	The maximum area of dissolved hydrocarbon exposure in the water column at the response hydrocarbon threshold (50 ppb) was approximately 1 km ² .

6.7.3 Predicted Environmental Impacts and Risk Events

Hydrocarbon spill events, including Vessel LOC, Subsea Well LOC or Subsea Pipeline LOC have the potential to expose ecological and social receptors to different hydrocarbon expressions and concentrations. Hydrocarbon expressions include:

- Surface
- Shoreline
- In-water.

Ecological receptors are assessed based on the hydrocarbon exposure thresholds that have been identified to potentially cause harmful impacts in ecological receptors. Therefore, the boundary of the Ecological EMBA

for a surface release of MDO (Figure 6-13) and a subsurface release of condensate (Figure 6-15) are defined using the hydrocarbon exposure thresholds below:

- Surface (moderate)
- Shoreline (moderate)
- In water – Dissolved (moderate)
- In water – entrained (high).

These EMBA's are based on modelling which is determined to be representative and conservative (refer to Section 6.7), and have been used to identify ecological receptors which are at risk of harmful exposure from an accidental hydrocarbon release event which is assessed in Table 6-28, Table 6-29, Table 6-30, Table 6-31, Table 6-32, and Table 6-33.

The EPBC Protected Matters Report for the Ecological (MDO) EMBA and the Ecological (Condensate) EMBA are in Appendix 2.

Social receptors are assessed based on the hydrocarbon exposure threshold that has been identified to result in a visual or economic impact to the marine and coastal environment. As a result, the boundary of the social EMBA for a surface release of MDO (Figure 6-14) and a subsurface release of condensate (Figure 6-16) is defined using the hydrocarbon exposure thresholds below:

- Surface (low)
- Shoreline (low)
- In water – Dissolved (moderate)
- In water – entrained (high)

These EMBA's are based on modelling which is determined to be representative and conservative (refer to Section 6.7), and have been used to identify social receptors which are at risk of visual or economic impact from an accidental hydrocarbon release event which is assessed in Table 6-28, Table 6-29, Table 6-30, Table 6-31, Table 6-32, and Table 6-33.

The EPBC Protected Matters Report for the Social MDO EMBA and the Social Condensate EMBA are in Appendix 2.

Exposure of receptors to hydrocarbons have the potential to result in:

- Toxicity effects/physical oiling
- Reduction in intrinsic values/visual aesthetics
- Impacts to commercial businesses.



Figure 6-13: Otway Offshore Operations Ecological (MDO) EMBA and Operational Area

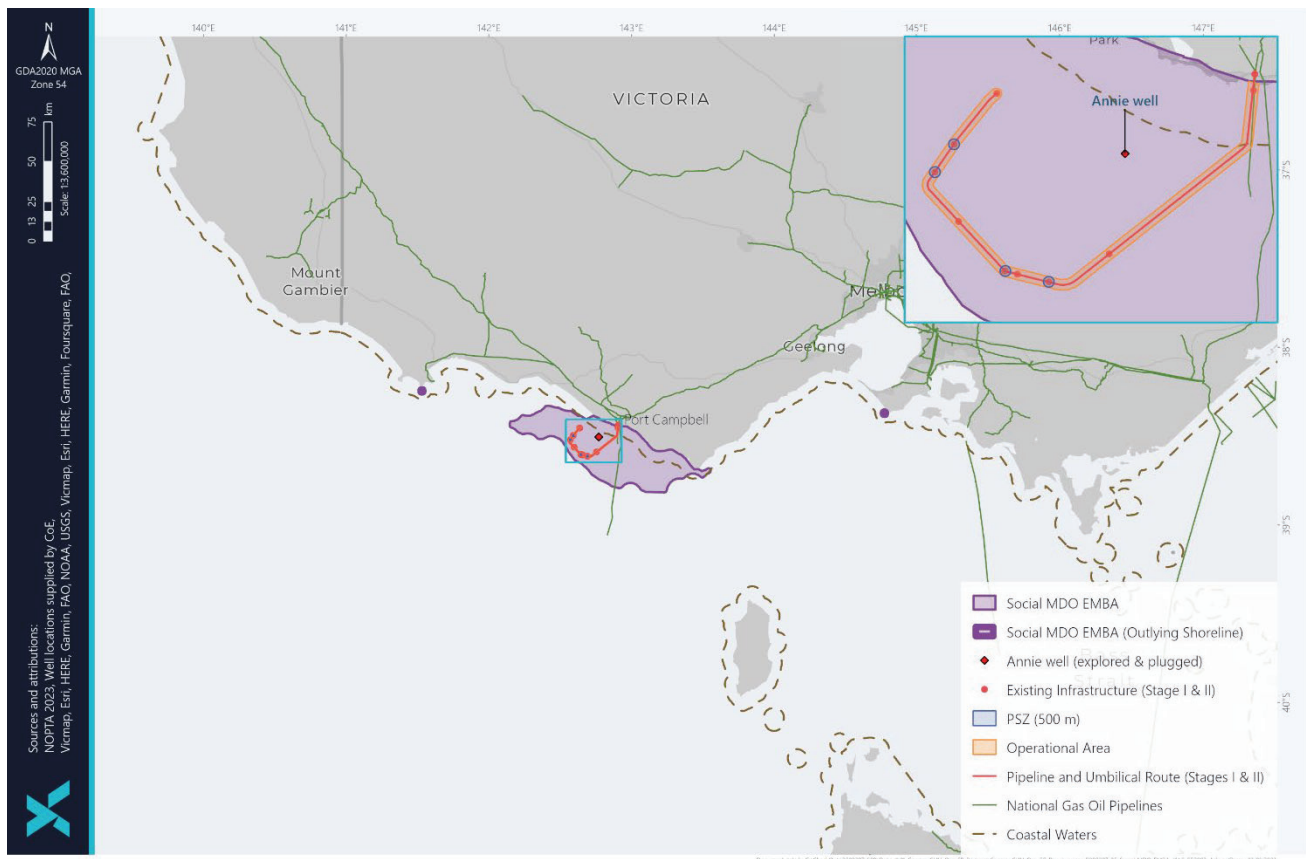


Figure 6-14: Otway Offshore Operations Social (MDO) EMBA and Operational Area

Sources and attributions:
 NOPIA 2023. Well locations supplied by CoE.
 Vicmap, Esri, HERE, Garmin, FAO, NOAA, USGS, Vicmap, Esri, HERE, Garmin, Foursquare, FAO.

GDA2020 MGA
 Zone 54

0 13 25 50 km
 Scale 1:3,600,000

VICTORIA

Mount Gambier

Geelong

Port Campbell

Legend:

- Social Condensate EMBA
- Social Condensate EMBA (Outlying Shoreline)
- Annie well (explored & plugged)
- Existing Infrastructure (Stage I & II)
- PSZ (500 m)
- Operational Area
- Pipeline and Umbilical Route (Stages I & II)
- National Gas Oil Pipelines
- Coastal Waters

Inset map: Annie well

6.7.4 Impact and Risk Evaluation

6.7.4.1 Risk Event: MDO Release

The ecological and social receptors with the potential to be exposed to hydrocarbons from a vessel LOC caused by vessel collision event are evaluated in Table 6-28, Table 6-29, and Table 6-30 respectively. Risk consequence was assessed for both state and commonwealth jurisdictions, with the highest consequence reflected in the assessment outcome.

Table 6-28: Consequence Evaluation for MDO Exposure – Surface

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Ecological Receptors			
Marine Fauna	Avifauna	Several threatened, migratory and/or listed marine species have the potential to be rafting, resting, diving and feeding within the area predicted to be contacted by surface hydrocarbons at moderate exposure levels. There are several foraging BIAs that are present within the area potentially exposed to surface hydrocarbons at moderate exposure levels for gannet, albatross, petrel, and shearwater species. Foraging BIAs are typically large broad areas (Appendix 3). Avifauna can feed via surface skimming or diving – both exposing the bird to any oil on the water surface. Wedge-tailed shearwater breeding BIA is also within the area potentially exposed to surface hydrocarbons at moderate exposure levels. Breeding activities do not occur in oceanic waters. Breeding birds however will utilise oceanic waters to forage during breeding.	When first released, the MDO has higher toxicity due to the presence of volatile components. Individual birds rafting, resting, diving and feeding within surface hydrocarbons at moderate exposure levels at the time of the spill may suffer impacts however it is unlikely that a large number of birds will be affected. Seabirds exposed to surface hydrocarbons at moderate exposure levels may experience acute or chronic toxicity impacts, however the area of contact is localised (i.e., areas of concentrations > 10g/m² out to 10.3 km) and temporary (~18 hrs) due to the rapid weathering of the MDO. The presence of birds within surface hydrocarbons at moderate exposure levels is expected to be limited to foraging individuals of a transitory nature, given the absence of offshore aggregation areas in the area. The National Recovery Plan for Albatrosses and Petrels 2022 identifies marine pollution as a threat (DCCCEW, 2022a). The activity will be conducted in a manner which is not inconsistent with the relevant management actions. The potential consequence to seabirds from a worst case MDO release (vessel collision) is assessed as Level 2 based on the potential for localised and short-term impacts to species of recognised conservation value but not affecting local ecosystem functioning.
	Marine Reptiles	There may be marine turtles in the area predicted to be exposed to surface hydrocarbons at moderate exposure levels. There are no BIAs or habitat critical to the survival of the species within this area.	Marine turtles are vulnerable to the effects of oil at all life stages. Marine turtles can be exposed to surface oil externally (i.e., swimming through oil slicks) or internally (i.e., swallowing the oil). Ingested oil can harm internal organs and digestive function. Oil on their bodies can cause skin irritation and affect breathing. The area exposed by moderate levels of surface hydrocarbons from a vessel collision event is limited to offshore open waters (10.3 km from the release site within the operational area) over a maximum period of 18 hours. The number of marine turtles that may be exposed to MDO surface hydrocarbons is expected to be low due to the localised and temporary presence of surface hydrocarbons at moderate exposure levels and the absence of BIAs or habitat critical to the survival of the species within this area. The potential impact would be limited to individual transiting marine turtles, with population impacts not anticipated.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
			Marine pollution is listed as a threat to marine turtle in the Recovery Plan for Marine Turtles in Australia, 2017 – 2027, particularly in relation to shoreline oiling of nesting beaches. There are no nesting beaches within the ecological EMBA, and the activity will be conducted in a manner which is not inconsistent with the relevant management actions. The potential consequence to marine turtles from a worst case MDO release (vessel collision) is assessed as Level 2 based on the potential for localised and short-term impacts to species of recognised conservation value but not affecting local ecosystem functioning.
	Marine Mammals (Pinnipeds)	There may be pinnipeds in the area predicted to be exposed to surface hydrocarbons at moderate exposure levels. There are no BIAs for pinnipeds within this area.	Exposure to surface oil can result in skin and eye irritations and disruptions to thermal regulation. Oiling of pinnipeds can lead to hypothermia if the fur is affected, or poisoning if oil is ingested, resulting in reduced foraging and reproductive fitness or death (DSEWPaC 2013). The oiling of fur seals from exposure to MDO surface hydrocarbons is not likely. MDO is considered a light hydrocarbon that rapidly evaporates (Figure 6-8). Fur seals are more likely to be exposed to volatile hydrocarbon fumes from ingestion or inhalation and less likely to be physically oiled externally (Yaghmour <i>et al.</i> 2022). The area exposed by moderate levels of surface hydrocarbons from a vessel collision event is limited to offshore open waters (10.3 km from the release site within the operational area) over a maximum period of 18 hours. The number of pinnipeds exposed is expected to be low, with population impacts not anticipated, due to the localised and temporary presence of surface hydrocarbons at moderate exposure levels and the absence of BIAs in the area. Conservation Listing Advice for the <i>Neophoca cinerea</i> (Australian sea lion) (TSSC, 2010) identifies oil spills as a potential threat to habitat. Activities within this Environment Plan will not be inconsistent with the conservation and management priorities outlined in this advice. Given that fur seals are vulnerable to poisoning from ingestion, the potential consequence to pinnipeds from a worst case MDO release (vessel collision) is assessed as Level 3 based on the potential for medium term impacts to species of recognised conservation value but not affecting local ecosystem functioning.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
	Marine Mammals (Cetaceans)	Several threatened, migratory and/or listed marine cetacean species have the potential to be migrating, resting or foraging within an area predicted to be exposed to surface hydrocarbons at moderate exposure levels. The following BIAs are within the area exposed to surface hydrocarbons: - Pygmy blue whale known foraging and distribution BIA - Southern right whale Migration BIA - Southern right whale Reproduction BIA	Physical contact by individual whales of MDO is unlikely to lead to any long-term impacts. Given the mobility of whales, only a small proportion of the population would surface in the affected areas, resulting in short-term and localised consequences, with no long-term population viability effects. Geraci (1988) found little evidence of cetacean mortality from hydrocarbon spills; however, some behaviour disturbance (including avoidance of the area) may occur. While this reduces the potential for physiological impacts from contact with hydrocarbons, active avoidance of an area may disrupt behaviours such as migration, or displace individuals from important habitat, such as foraging, resting or breeding. The area exposed by moderate levels of surface hydrocarbons from a vessel collision event is limited to offshore open waters (10.3 km from the release site within the operational area) over a maximum period of 18 hours. If whales are foraging or aggregating in the region at the time of the spill, a greater number of individuals may be present in the area exposed by moderate levels of surface hydrocarbons. However due to the rapid weathering of MDO and the short duration of the surface exposures at higher concentrations (e.g., >10 g/m²), this is not considered likely. Low levels of surface hydrocarbons could occur within the southern right whale BIAs. Conservation Management Plan for the blue whale and Recovery Plan for the southern right whale identifies habitat modification as a threat. Activities within this Environment Plan will not be inconsistent with the conservation and management priorities outlined in these Conservation Management Plans. The potential consequence to cetaceans from a vessel collision (MDO) event is assessed as Level 2 based on the potential for localised and short-term impacts to species of recognised conservation value but not affecting local ecosystem functioning.
Social Receptors			
Natural Systems	KEFs	There is no KEF exposed to surface hydrocarbons at any exposure levels.	NA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
	State Marine Protected Areas	One Marine Protected Area is present within the area predicted to be exposed to surface hydrocarbons. Values associated with these areas include providing habitats for a diverse range of invertebrates, fish, mammals and birds.	Based on the worse case potential consequence to key receptors (e.g., seabirds, pinnipeds and cetaceans) the potential consequence to this protected area is assessed to be Level 3 as per the assessment for pinnipeds. Refer also to: - Seabirds. - Marine mammals (Pinnipeds, Cetaceans).
Human Systems	Recreation and Tourism (including recreational fisheries)	Marine pollution can result in impacts to marine-based tourism from reduced visual aesthetic. MDO is known to rapidly spread and thin out on release and consequently, a large area may be exposed to surface hydrocarbons. Low exposure thresholds (1-10 g/m ²) are predicted up to 32.5 km W of the release location. Local government areas and sub-areas where low threshold surface oil is predicted include Corangamite and Moonlight Head.	Visible surface hydrocarbons (i.e., a rainbow sheen) have the potential to reduce the visual amenity of the area for tourism and discourage recreational activities. However, the relatively short duration, and distance from shore means there may be short-term and localised consequences, which are ranked as Level 2 as they could be expected to result in localised short-term impacts. Refer also to: - Marine Mammals (Pinnipeds, Cetaceans). - State Marine Protected Areas.
	Shipping	Shipping occurs within the area predicted to be exposed to surface hydrocarbons.	Vessels may be present in the area exposed to sea surface oil, however, due to the short duration of surface exposure (95% evaporated within a few days) impacts would be localised and short term, consequently, the potential consequence is considered to be Level 1 .
	Oil and gas	Oil and gas platforms are located within the area predicted to be exposed to surface hydrocarbons.	Oil and gas infrastructure present in the area exposed to surface hydrocarbons could be potentially oiled. However, due to the short duration of surface exposure (95% evaporated within a few days) impacts would be localised and short term, consequently, the potential consequence is considered to be Level 1 .

Table 6-29: Consequence Evaluation for MDO Hydrocarbon Exposure – Shoreline

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Ecological Receptors			
Habitat	Rocky Shoreline	Rocky shores are within the area potentially exposed to hydrocarbons ashore. As MDO is not sticky or viscous, if it contacts rocky shorelines, it is not expected to stick with tidal washing expected to influence the longevity of exposure.	The sensitivity of a rocky shoreline to oiling is dependent on a number of factors including its topography and composition, position, exposure to oceanic waves and currents etc. Exposed rocky shorelines are less sensitive than sheltered rocky shorelines. One of the main identified values of rocky shores/scarps is as habitat for invertebrates (e.g., sea anemones, sponges, sea-squirts, molluscs). Rocky areas are also utilised by some pinniped and bird species; noting that foraging and breeding/nesting typically occurs above high tide line. The impact of oil on any organism depends on the toxicity, viscosity and amount of oil, on the sensitivity of the organism and the length of time it is in contact with the oil. Even where the immediate damage to rocky shores from oil spills has been considerable, it is unusual for this to result in long-term damage and the communities have often recovered within 2 or 3 years (IPIECA, 1995). The potential consequence to rocky sites from a vessel collision (MDO) event is assessed as Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function. Refer also to: - Marine Invertebrates. - Seabirds and Shorebirds. - Pinnipeds.
	Sandy Shoreline	Sandy beaches are within the area potentially exposed to hydrocarbons ashore. Sandy beaches are the predominant habitat type within the stretch of coast where shoreline contact could be expected from a vessel collision (MDO) event. MDO would be expected to penetrate porous sediments of sandy shorelines quickly but may also be washed off shorelines just as quick via waves and tidal flushing. NOAA (2014) note that as MDO is readily and completely degraded by naturally	Sandy beaches are considered to have a low sensitivity to hydrocarbon exposure. Sandy beaches provide habitat for a diverse assemblage (although not always abundant) of infauna (including nematodes, copepods and polychaetes); and macroinvertebrates (e.g., crustaceans). Due to proximity to shore, a release of MDO may reach the shoreline prior to it completely weathering and consequently impacts due to toxicity and/or smothering of infauna may occur. The potential consequence to sandy shorelines from a worst-case loss of MDO is assessed as Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function. Refer also to: Marine Invertebrates.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		occurring microbes, it could be expected to disappear from shorelines within one to two months. MDO has the potential to be buried due to the continual washing in the intertidal zone.	- Seabirds and Shorebirds. - Pinnipeds. - Recreation.
	Mangroves	Strands of mangroves are within the area potentially exposed to hydrocarbons ashore, however, within the stretch of coast expected to be exposed from vessel collision (MDO) event, there is no coastal habitat mapped specifically as this vegetation type. Oil can enter mangrove forests when the tide is high and be deposited on the aerial roots and sediment surface as the tide recedes. This process commonly leads to a patchy distribution of the oil and its effects because different places within the forests are at different tidal heights (IPIECA 1993, NOAA 2014). The physical smothering of aerial roots by hydrocarbons, particularly heavy or viscous oils, can block the trees' breathing pores used for oxygen intake and result in the asphyxiation of sub-surface roots International Petroleum Industry Environmental Conservation Association (IPIECA 1993).	Mangroves are considered to have a high sensitivity to hydrocarbon exposure. Mangroves can be killed by heavy or viscous oil, or emulsification, that covers the trees' breathing pores thereby asphyxiating the subsurface roots, which depend on the pores for oxygen (IPIECA 1993). Mangroves can also take up hydrocarbons from contact with leaves, roots or sediments, and it is suspected that this uptake causes defoliation through leaf damage and tree death (Wardrop <i>et al.</i> 1987). Acute impacts to mangroves can be observed within weeks of exposure, whereas chronic impacts may take months to years to detect. Given the non-viscous nature of MDO and impacts are expected to be limited to the volatile component of the hydrocarbon, however given their sensitivity to hydrocarbons, the potential consequence to mangroves is assessed to be Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function.
	Saltmarsh	Communities of saltmarsh are within the area potentially exposed to hydrocarbons ashore; and is present within some estuaries and inlet/riverine systems. Some of the saltmarsh habitat along this coast will be representative of the Subtropical and Temperate Saltmarsh TEC. Oil can enter saltmarsh systems during the tidal cycles if the estuary/inlet is open to the ocean. Similar to mangroves, this can lead to a patchy	Saltmarsh is considered to have a high sensitivity to hydrocarbon exposure. Saltmarsh vegetation offers a large surface area for oil absorption and tends to trap oil. Evidence from case histories and experiments shows that the damage resulting from oiling, and recovery times of oiled marsh vegetation, are very variable. In areas of light to moderate oiling where oil is mainly on perennial vegetation with little penetration of sediment, the shoots of the plants may be killed but recovery can take place from the underground systems. Good recovery commonly occurs within one to two years (IPIECA 1994). The potential consequence to saltmarsh is assessed to be Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Marine Fauna		distribution of the oil and its effects, because different places within the inlets are at different tidal heights. Oil (in liquid form) will readily adhere to the marshes, coating the stems from tidal height to sediment surface.	
	Invertebrates	Invertebrates that live in intertidal zones include crustaceans, molluscs and infauna, and can be present in wide range of habitats including sandy beaches and rocky shores (refer also to the exposure evaluation for these habitats). Exposure to hydrocarbons for invertebrates is typically via direct contact and smothering but can also occur via ingestion.	The impact of oil on any marine organism depends on the toxicity, viscosity and amount of oil, on the sensitivity of the organism and the length of time it is in contact with the oil. Acute or chronic exposure, through surface contact, and/or ingestion can result in toxicological impacts, reproductive impacts, smothering and potentially cause death. However, the presence of an exoskeleton (e.g., crustaceans) will reduce the impact of hydrocarbon absorption through the surface membrane. Other invertebrates with no exoskeleton and larval forms may be more sensitive to impacts from hydrocarbons. If invertebrates are contaminated by hydrocarbons, tissue taint can remain for several months, but can eventually be lost. As MDO is expected to rapidly spread out, a large portion of the coast with the potential to be exposure to hydrocarbons comprises habitats that are suitable for intertidal invertebrates could be exposed, with the potential consequences assessed as Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function.
	Seabirds and Shorebirds	Listed marine, threatened and/or migratory bird species have the potential to be breeding, foraging, feeding, roosting or resting within the area potentially exposed to hydrocarbons ashore. These fauna can be present in wide range of habitats including sandy beaches and rocky shores (refer also to the exposure evaluation for these habitats). There are several seabird foraging, breeding and aggregation BIAs throughout the area, however these species are oceanic foragers, not shoreline foragers. No habitat critical to the survival of the species have been identified. Given hydrocarbons may wash ashore prior to weathering, there is the potential for both physical	Shoreline species may suffer both direct oiling and potential displacement from foraging and/or nesting sites. Acute or chronic toxicity impacts (death or long-term poor health) to small numbers of birds is possible, however this is not considered significant at a population level. Direct oiling of nesting sites is considered unlikely as hydrocarbons would typically accrue within the upper swash zone, and nests would occur above this level on a beach. However, oiled fauna may track oil into their nests, which may then have subsequent impacts on any eggs present. This would be more of a risk for fauna, such as the Little Penguin, that must traverse the intertidal area to reach nesting sites. There are no known breeding locations for penguins along the Otway mainland coast at risk of shoreline oil accumulation. In addition, given the volatility of the exposed oil, any impact to nests is expected to occur to individuals and not considered to pose a long-term risk at population level. Consequently, the potential impacts to seabirds from shoreline hydrocarbon exposure event are considered to be Level 2, as they could be expected to result in localised short-term impacts to species/habitats of recognised conservation value but not affecting local ecosystem functioning.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		oiling and toxicity (e.g., surface contact or ingestion; particularly for shorebirds utilizing the intertidal area. Noting that these events will be temporary, so length of exposure is limited.	
	Marine Reptiles	Turtles nesting on exposed shores would be exposed by direct contact with skin/body. However, there are no BIAs or habitat critical to the survival of the species within the shorelines that could be potentially affected. Therefore, shoreline exposure to marine turtles is not expected and not evaluated further.	NA
	Marine Mammals (Pinnipeds)	Listed marine and/or threatened pinniped species have the potential to present within the area predicted to be exposed to hydrocarbons ashore. Pinnipeds hauling out on exposed shores could be exposed by direct contact of oil with skin/body. Direct oiling is possible but expected to have a limited window for occurring due to rapid weathering and flushing of MDO.	Pinnipeds have high site fidelity and can be less likely to exhibit avoidance behaviours, thus staying near established colonies and haul-out areas. Fur seals are particularly vulnerable to hypothermia from oiling of their fur (DSEWPaC 2013) and consequently, once onshore hydrocarbons pose a significant hazard to pinnipeds with biological impacts caused from ingestion possibly resulting in reduced reproduction levels. Small colonies of NZ and Australian fur-seals occur at Moonlight Head/Cape Volney which is located within the shoreline exposure EMBA. The potential consequence to pinnipeds from exposure are assessed as Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function.
Social Receptors			
Natural System	Wetlands	There are no Wetlands of International Importance (RAMSAR) present within the area predicted to be exposed to hydrocarbons ashore. Three wetland communities with TEC status are present within the area predicted to be exposed to hydrocarbons ashore: Karst springs and associated alkaline fens of the Naracoorte Coastal Plain Bioregion, Assemblages of species associated with open-coast salt-wedge estuaries of western and central Victoria ecological community and Natural Damp Grassland of the Victorian Coastal Plains.	The impacts of hydrocarbons on wetlands are generally similar to those described for mangroves and saltmarshes. The degree of impact of oil on wetland vegetation are variable and complex, and can be both acute and chronic, ranging from short-term disruption of plant functioning to mortality. Spills reaching wetlands during the growing season will have a more severe impact than if oil reaches wetlands during the times when many plant species are dormant. Wetland habitat can be of particular importance for some species of birds and invertebrates. As such, in addition to direct impacts on plants, oil that reaches wetlands also affects these fauna utilising wetlands during their life cycle, especially benthic organisms that reside in the sediments and are a foundation of the food chain.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
			The potential consequence to wetlands from exposure are assessed as Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function. Refer also to: • Marine Invertebrates. • Seabirds and Shorebirds.
Human System	Coastal Settlements	Coastal settlements are within the area potentially exposed to hydrocarbons ashore; however, the stretch of coast expected to be exposed is not densely populated. Noting that these events will be temporary, so duration of exposure is also limited. Most of the hydrocarbons would likely be concentrated along the high tide mark while the lower/upper parts are often untouched (IPIECA 1995) and expected to be visible.	Visible hydrocarbons have the potential to reduce the visual amenity of the area for coastal settlements. Given MDOs rapid weathering and potential for tidal flushing and rapid degradation, the potential consequence to coastal settlements is assessed as Level 2 based on the potential for localised short-term impacts. Refer also to: • Rocky Shores. • Sandy Beaches.
	Recreation and Tourism	Recreational and tourism activities occur within the area potentially exposed hydrocarbons ashore; however, the stretch of coast expected to be exposed, as such the volume of recreation/tourism is not as high as other places. Noting that these events will be temporary, so duration of exposure is also limited. Most of the oil would likely be concentrated along the high tide mark while the lower/upper parts are often untouched (IPIECA 1995) and expected to be visible.	Visible hydrocarbons stranded on a shoreline have the potential to temporarily reduce the visual amenity of the area for tourism and discourage recreational activities. The potential consequence to recreation and tourism is assessed as Level 2 based on the potential for localised short-term impacts. Refer also to: • Rocky Shores. • Sandy Beaches. • Coastal Settlements.
	Heritage	One national heritage place is present within the area potentially exposed to hydrocarbons ashore: Great Ocean Road and Scenic Environs. Noting that these events will be temporary, so duration of exposure is also limited. Most of the oil would likely be concentrated along the high tide mark	Hydrocarbons stranded on a shoreline have the potential to temporarily reduce the Heritage value of the area. However, it is expected that these sites would be above the high tide mark. Thus, the potential consequence to heritage is assessed as Level 2 as they could be expected to result in localised short-term impacts. Refer to:

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		while the lower/upper parts are often untouched (IPIECA 1995) and expected to be visible.	- Rocky Shores. - Sandy Beaches. - Coastal Settlements.

Table 6-30: Consequence Evaluation for MDO Exposure – In-water

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Ecological Receptors			
Habitat	Coral	Soft corals may be present within reef and hard substrate areas within the area predicted to be exposed above thresholds. Note that the greater wave action and water column mixing within the nearshore environment will also result in rapid weathering of the MDO residue.	Exposure of entrained hydrocarbons to shallow subtidal corals has the potential to result in lethal or sublethal toxic effects, resulting in acute impacts or death at moderate to high exposure thresholds (Shigenaka 2001). Contact with corals may lead to reduced growth rates, tissue decomposition, and poor resistance and mortality of sections of reef (NOAA 2010). However, given the lack of coral reef formations, and the sporadic cover of hard or soft corals in mixed nearshore reef communities along the Otway coast, such impacts are considered to be limited to isolated corals. Thus, the potential consequence to corals is assessed as Level 2 based on the potential for localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.
	Macroalgae	Macroalgae may be present within reef and hard substrate areas within the area predicted to be exposed above thresholds, however, it is not a dominant habitat feature in the ecological EMBA. Note that the greater wave action and water column mixing within the nearshore environment will also result in rapid weathering of the MDO residue.	Reported toxic responses to oils have included a variety of physiological changes to enzyme systems, photosynthesis, respiration, and nucleic acid synthesis (Lewis & Pryor 2013). A review of field studies conducted after spill events by Connell <i>et al.</i> (1981) indicated a high degree of variability in the level of impact, but in all instances, the algae appeared to be able to recover rapidly from even very heavy oiling. Given the restricted range of exposure (shallow nearshore and intertidal waters only) and the predicted lower concentrations of hydrocarbons that could reach these waters, any impact to macroalgae is not expected to result in long-term or irreversible damage. Consequently, the potential impacts to macroalgae are considered to be Level 2, as they could be expected to result in localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
	Seagrass	Seagrasses may be present within the area predicted to be exposed above thresholds.	There is the potential that exposure could result in sub-lethal impacts, more so than lethal impacts, possibly because much of seagrasses' biomass is underground in their rhizomes (Zieman <i>et al.</i> 1984). Given the restricted range of exposure (shallow nearshore and intertidal waters only) and the predicted lower concentrations of hydrocarbons expected to be in these waters, any impact to seagrass is not expected to result in long-term or irreversible damage. Thus, the potential consequence to seagrass is assessed as Level 2 based on the potential for localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.
Marine Fauna	Plankton	Plankton are likely to be exposed to entrained hydrocarbon. Exposure is predicted in the 0-10 m water depth, which is also where plankton are generally more abundant. Entrained phase MDO may intersect the Bonney Upwelling KEF. While a spill would not affect the upwelling itself, if the spill occurs at the time of an upwelling event, it may result in krill being exposed to low (effects) level entrained phase MDO (99% species protection). Pygmy blue whales feeding on this krill may suffer from reduced prey, however, these impacts are expected to be extremely localised and temporary.	Relatively low concentrations of hydrocarbon are toxic to both plankton [including zooplankton and ichthyoplankton (fish eggs and larvae)]. Plankton risk exposure through ingestion, inhalation and dermal contact. Plankton are numerous and widespread but do act as the basis for the marine food web, meaning that an oil spill in any one location is unlikely to have long-lasting impacts on plankton populations at a regional level. Once background water quality conditions have re-established, the plankton community may take weeks to months to recover (ITOPF 2011a), allowing for seasonal influences on the assemblage characteristics. Thus, the potential consequence to plankton is assessed as Level 2 based on the potential for short-term and localised impacts, but not affecting local ecosystem functioning.
	Invertebrates	The modelling indicates that temporary patches of entrained MDO may be present at 0-10 m water depth. Impact by direct contact of benthic species with hydrocarbon in the deeper areas of the release area is not expected given the surface nature of the spill and the water depths throughout much of the ecological EMBA. Species closer to shore may be affected although these effects will be localised, low level and temporary, noting that in-water thresholds	Acute or chronic exposure through contact and/or ingestion can result in toxicological risks. However, the presence of an exoskeleton (e.g., crustaceans) reduces the impact of hydrocarbon absorption through the surface membrane. Invertebrates with no exoskeleton and larval forms may be more prone to impacts. Localised impacts to larval stages may occur which could impact on population recruitment that year. Tainting of recreation or commercial species is considered unlikely to occur, however if it did it is expected to be localised and low level with recovery expected. Thus, the potential consequence to invertebrates including commercially fished invertebrates is assessed as Level 2 based on the potential for localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		selected for interpretation are effects levels for 95-99% species protection. Filter-feeding benthic invertebrates such as sponges, bryozoans, abalone and hydroids may be exposed to sub-lethal impacts, however, population level impacts are considered unlikely. Tissue taint may occur and remain for several months in some species (e.g., lobster, abalone) however, this will be localised and low level with recovery expected. In-water invertebrates of value have been identified to include squid, crustaceans (rock lobster, crabs) and molluscs (scallops, abalone). Several commercial fisheries for marine invertebrates are within the area predicted to be exposed above the impact threshold: • Cth Southern Squid Jig Fishery • Bass Strait Central Zone Scallop Fishery. • Victorian Abalone Fishery • Victorian Rock Lobster Fishery • Victorian Giant Crab Fishery • Victorian Scallop Fishery.	
	Fish and Sharks	Entrained hydrocarbon droplets can physically affect fish exposed for an extended duration (weeks to months). Effects will be greatest in the upper 10 m of the water column and areas close to the spill source where hydrocarbon concentrations are likely to be highest. Several fish communities in these areas are demersal and therefore more prevalent towards the seabed, which modelling does not predict is exposed >10m	Pelagic free-swimming fish and sharks are unlikely to suffer long-term damage from oil spill exposure because dissolved/entrained hydrocarbons in water are not expected to be sufficient to cause harm (ITOPF, 2010). Subsurface hydrocarbons could potentially result in acute exposure to marine biota such as juvenile fish, larvae, and planktonic organisms, although impacts are not expected cause population-level impacts. Impacts on fish eggs and larvae entrained in the upper water column are not expected to be significant given the temporary period of water quality impairment, and the limited areal extent of the spill. As egg/larvae dispersal is widely distributed in the upper layers of the water column it is expected that current induced drift will rapidly replace any oil affected populations.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		water depth. Therefore, any impacts are expected to be highly localised. There is a known distribution and foraging BIA for the great white shark in the area predicted to be over the impact threshold, however, it is not expected that this species spends a large amount of time close to the surface where thresholds are predicted to be exceeded.	Thus, the potential consequence to fish and sharks including commercially fished species is assessed as Level 2 based on the potential for localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.
	Pinnipeds	Localised parts of the foraging range for NZ fur-seals and Australian fur-seals and also foraging range for the Australian sea lion (male) may be temporarily exposed to low concentrations of entrained MDO in the water column (no dissolved phase).	Exposure to hydrocarbons in the water column or consumption of prey affected by the oil may cause sub-lethal impacts to pinnipeds, however given the temporary and localised nature of the spill, their widespread nature, the low-level exposure zones and rapid loss of the volatile components of MDO in choppy and windy seas (such as that of the ecological EMBA), the potential consequence is assessed as Level 2 based on the potential for localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.
	Cetaceans	Several threatened, migratory and/or listed marine species have the potential to be migrating, resting or foraging within an area predicted to be above the surface thresholds. Known BIAs are present for distribution and foraging PBW, and Migration and Reproduction BIAs for southern right whale.	Cetacean exposure to entrained hydrocarbons can result in physical coating as well as ingestion (Geraci and St Aubin 1988). Such impacts are associated with 'fresh' hydrocarbon; the risk of impact declines rapidly as the MDO weathers. Geraci (1988) found little evidence of cetacean mortality from hydrocarbon spills; however, some behavioural disturbance (including avoidance of the area) may occur. While this reduces the potential for physiological impacts from contact with hydrocarbons, active avoidance of an area may disrupt behaviours such as migration, or displace individuals from important habitat, such as foraging or reproduction areas. If whales are foraging or aggregating in the region at the time of the spill, a greater number of individuals may be present in the area exposed to hydrocarbons. Hydrocarbons could occur within the southern right whale BIAs. However due to the rapid weathering and dispersion of MDO and the short duration of exposures at higher concentrations, impacts to individuals are not considered likely. Conservation Management Plan for the blue whale and Recovery Plan for the southern right whale identifies habitat modification as a threat. Activities within this Environment Plan will not be inconsistent with the conservation and management priorities outlined in these Plans. The potential consequence to cetaceans from a vessel collision (MDO) event is assessed as Level 2 based on the potential for localised and short-term impacts to species of recognised conservation value but not affecting local ecosystem functioning.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Social Receptors			
Human System	Commercial Fisheries and Recreational Fishing	In-water exposure to entrained MDO may result in a reduction in commercially targeted marine species, resulting in impacts to commercial fishing and aquaculture. Actual or potential contamination of seafood can affect commercial and recreational fishing and can impact seafood markets long after any actual risk to seafood from a spill has subsided (NOAA 2002) which can have economic impacts to the industry. Several commercial and state fisheries operate in the social EMBA and overlap the spatial extent of the water column hydrocarbon predictions.	Any acute impacts are expected to be limited to small numbers of juvenile fish, larvae, and planktonic organisms, which are not expected to affect population viability or recruitment. Impacts from entrained exposure are unlikely to manifest at a fish population viability level. Actual or potential contamination of seafood can affect commercial and recreational fishing and can impact seafood markets long after any actual risk to seafood from a spill has subsided (NOAA, 2002) which can have economic impacts to the industry. Any exclusion zone established would be targeted around the release area and spill trajectories, and due to the rapid weathering of MDO would only be in place for a short period after release, therefore physical displacement to vessels is unlikely to be a significant impact. The potential consequence to commercial and recreational fisheries is assessed as Level 2 based on the potential for localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning. Refer also to: • Fish and Sharks. • Invertebrates.
	Recreation and Tourism	In-water exposure to entrained MDO could overlap and may result in a negative impact to recreation and tourism activities. Tourism and recreation activities can be indirectly exposed to impacts from in-water hydrocarbons, as the activities are often linked to the presence of ecological features, such as marine fauna (e.g., whale watching, recreational fishing).	Any impact to receptors that provide nature-based tourism features (e.g., whales) may cause a subsequent negative impact to recreation and tourism activities. However, the relatively short exposure durations (of generally low exposures) indicate short-term and localised consequences, assessed as Level 2. Refer also to: • Fish and Sharks • Cetaceans • Invertebrates • Recreational Fishing Based on the worse case potential consequence to key receptors the consequence to protected marine areas is assessed Level 2. Refer to: • Invertebrates. • Macroalgae.
Natural System	State Marine Protected Areas	Marine protected areas predicted to be exposed to entrained hydrocarbons above thresholds in Apollo AMP. Conservation values for this area includes high marine fauna and flora diversity, including fish and	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		invertebrate assemblages and benthic coverage (sponges, soft corals, macroalgae).	Pinnipeds.
	KEFs	The Bonney Coast Upwelling is predicted to be exposed to entrained hydrocarbons above thresholds. Values associated with these areas are: Bonney Coast Upwelling - Brings cold nutrient rich water to the sea surface and supports regionally high productivity and high species diversity. Whales and many endangered and listed species frequent the area, possibly relying on the abundance of krill that provide a food source to many seabirds and fish. Higher predator species such as little penguins and Australian fur seals also feed on baitfish.	Based on the worse case potential consequence to key receptors within these KEEs, the potential consequence is assessed to be Level 2. Refer also to: - Coral. - Macroalgae. - Seagrass. - Plankton. - Invertebrates - Seabirds. - Fish and Sharks. - Marine mammals (Pinnipeds, Cetaceans).

6.7.4.2 Risk Event: Condensate Release

The ecological and social receptors with the potential to be exposed to hydrocarbons from a Subsea Well LOC caused by a subsea leak from SST or Subsea Pipeline LOC are evaluated in Table 6-31, Table 6-32, and Table 6-33 respectively.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 6-31: Consequence Evaluation for Condensate Exposure – Surface

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Ecological Receptors			
Marine Fauna	All Species	There was no surface oil exposure observed above the moderate and high thresholds.	NA
Social Receptors			
Natural Systems	Marine Protected Areas	There are no AMP or MPA exposed to surface hydrocarbons at any exposure level .	NA
Human Systems	Coastal Settlements	There are no local government areas expected to be exposed to surface hydrocarbons at any exposure level as there is no shoreline contact.	NA
	Recreation and Tourism	Recreation and tourism activities are only expected to be exposed to surface hydrocarbons at low thresholds. There is no shoreline contact and surface exposure is only expected 2nm offshore.	Visible surface hydrocarbons have the potential to reduce visual amenity of the area for tourism and discourage recreational activities. Consequently, the potential impacts and risks to recreation and tourism are considered to be Level 2 as they could be expected to result in localised short-term impacts
	Heritage	There are no known heritage sites expected to be exposed to surface hydrocarbons at any exposure level as there is no shoreline contact.	NA

Table 6-32: Consequence Evaluation for Condensate Exposure – In-water

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Ecological Receptors			

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Habitat	Seagrass	Seagrasses may be present within the area exposed to in-water hydrocarbons.	There is the potential that exposure could result in sub-lethal impacts, more so than lethal impacts, possibly because much of seagrasses biomass is underground in their rhizomes (Zieman <i>et al.</i>, 1984). Given the restricted range of exposure (shallow nearshore and intertidal waters only) and the predicted lower concentrations of hydrocarbons expected to be in these waters, any impact to seagrass is not expected to result in long-term or irreversible damage. Consequently, the potential impacts to seagrass are considered to be Level 2 as they could be expected to result in localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.
	Macroalgae	Macroalgae may be present within reef and hard substrate areas within the area predicted to in-water hydrocarbons, however, it is not a dominant habitat feature in the ecological EMBA. Note that the greater wave action and water column mixing within the nearshore environment will also result in rapid weathering of any condensate not already evaporated.	Reported toxic responses to oils have included a variety of physiological changes to enzyme systems, photosynthesis, respiration, and nucleic acid synthesis (Lewis & Pryor 2013). A review of field studies conducted after spill events by Connell <i>et al</i> (1981) indicated a high degree of variability in the level of impact, but in all instances, the algae appeared to be able to recover rapidly from even very heavy oiling. Given the restricted range of exposure (shallow nearshore and intertidal waters only) and the predicted lower concentrations of hydrocarbons expected to be in these waters, any impact to macroalgae is not expected to result in long-term or irreversible damage. Consequently, the potential impacts to macroalgae are considered to be considered to be Level 2 as they could be expected to result in localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.
	Coral	Soft corals may be present within reef and hard substrate areas within the ecological EMBA. Note that the greater wave action and water column mixing within the nearshore environment will also result in rapid weathering of the MDO residue.	Exposure of entrained hydrocarbons to shallow subtidal corals has the potential to result in lethal or sublethal toxic effects, resulting in acute impacts or death at moderate to high exposure thresholds (Shigenaka, 2001). Contact with corals may lead to reduced growth rates, tissue decomposition, and poor resistance and mortality of sections of reef (NOAA, 2010).

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
			However, given the lack of coral reef formations, and the sporadic cover of hard or soft corals in mixed nearshore reef communities along the Otway coast, such impacts are considered to be limited to isolated corals. Consequently, the potential impacts to corals are considered to be Level 2 as they could be expected to result in localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning.
Marine Fauna	Plankton	Plankton is found in nearshore and open waters in the water column. These organisms migrate vertically through the water column to feed in surface waters at night (NRDA, 2012). As they move close to the sea surface it is possible that they may be exposed to surface hydrocarbons but to a greater extent, dissolved or entrained in the water column.	Relatively low concentrations of hydrocarbon are toxic to both plankton [including zooplankton and ichthyoplankton (fish eggs and larvae)]. Plankton risk exposure through ingestion, inhalation and dermal contact with in-water hydrocarbons. Plankton is generally abundant in the upper layers of the water column and is the basis of the marine food web, so an oil spill in any one location is unlikely to have long-lasting impacts on plankton populations at a regional level. Reproduction by survivors or migration from unaffected areas is likely to rapidly replenish losses (Volkman <i>et al.</i>, 2004). Oil spill field observations show minimal or transient effects on plankton (Volkman <i>et al.</i>, 2004). Once background water quality is re-established, plankton takes weeks to months to recover (ITOPF, 2011a). Any impact is expected to be localised and temporary, meaning that an oil spill in any one location is unlikely to have long-lasting impacts on plankton populations at a regional level. Once background water quality conditions have re-established, the plankton community may take weeks to months to recover (ITOPF, 2011), allowing for seasonal influences on the assemblage characteristics. The potential impacts to plankton are considered to be Level 2 as they could be expected to result in localised short-term impacts, but not affecting local ecosystem functioning.
	Invertebrates	Invertebrate species occur within the ecological EMBA and could be exposed above ecological impact threshold levels. Exposure would be short lived.	Acute or chronic exposure through contact and/or ingestion can result in toxicological risks. For some taxa, the presence of an exoskeleton (e.g., crustaceans) reduces the impact of hydrocarbon absorption through the surface membrane. Invertebrates with no exoskeleton and larval forms may be more prone to impacts. Sessile invertebrates could be exposed to varying levels of condensate; exposure timeframes would be expected to be short given the

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
			propensity of condensate to rapidly evaporate and disperse. Localised impacts to larval stages may occur which could impact on population recruitment that year. Tainting of recreation or commercial species is considered unlikely to occur, however if it did it is expected to be localised, low level and recoverable. Consequently, the potential impacts to invertebrates are considered to be Level 2 as they could be expected to result in localised short-term impacts to species/habitats of recognised conservation value but not affecting local ecosystem functioning.
	Fish and Sharks	Fish are exposed to hydrocarbon droplets through a variety of pathways, including direct dermal contact with diffusion across their gills (Hook <i>et al.</i>, 2016)); Ingestion of contaminated prey; and Inhalation (e.g., elevated dissolved contaminant concentrations in water passing over the gills).	Pelagic free-swimming fish and sharks are unlikely to suffer long-term damage from oil spill exposure because dissolved/entrained hydrocarbons in water are not expected to be sufficient to cause harm (ITOPF, 2010). Subsurface hydrocarbons could potentially result in acute exposure to marine biota such as juvenile fish, larvae, and planktonic organisms, although impacts are not expected cause population-level impacts. Potential impacts are assessed as Level 2 as they could be expected to be localised and short-term.
	Pinnipeds	There may be pinnipeds in the area predicted to affected by hydrocarbons. There are no BIAs for pinnipeds within this area.	Hydrocarbons in the water column or consumption of prey affected by the oil may cause sub-lethal impacts to pinnipeds, however given the localised nature of the spill, and the rapid loss of the volatile components of condensate in choppy and windy seas (such as that of the ecological EMBA) and impacts are expected to be temporary and localised (Level 2 consequence).
	Cetaceans	Several threatened, migratory and/or listed marine species have the potential to be within the ecological EMBA. Known BIAs are present for distribution and foraging PBW, and Migration and Reproduction for southern right whale.	Cetacean exposure to entrained hydrocarbons can result in physical coating as well as ingestion (Geraci and St Aubin, 1988). Such impacts are associated with ‘fresh’ hydrocarbon; the risk of impact declines rapidly as the condensate weathers. Geraci (1988) found little evidence of cetacean mortality from hydrocarbon spills; however, some behaviour disturbance (including avoidance of the area) may occur. While this reduces the potential for physiological impacts from contact with hydrocarbons, active avoidance of an area may disrupt behaviours such as migration, or displace individuals from important habitat, such as foraging, resting or breeding.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
			The potential for environmental impacts would be limited to a relatively short period following the release and would need to coincide with a migration or aggregation event to result in exposure to a large number of individuals. However, such exposure is not anticipated to result in long-term impacts to population viability. The potential consequence to cetaceans from a Subsea Well LOC is assessed as Level 2 based on the potential for localised and short-term impacts to species of recognised conservation value but not affecting local ecosystem functioning.
Social Receptors			
Natural System	Commonwealth Areas, Parks and Reserves	One AMP is within the social EMBA however it is not predicted to be exposed to in-water concentrations above the environmental impact thresholds.	The concentration at which the water column within AMPs may be exposed is below the ecological no-effect (low) time-based exposure threshold. Given the temporary (1 hour instantaneous) nature of the exposure, and the limited effect on water quality, the consequence is ranked as Level 1 .
	State Parks and Reserves	State Parks and reserves are within the social EMBA and are predicted to be exposed to in-water concentrations above the environmental impact thresholds.	Based on the proximity to, and potential exposure of key receptors within marine parks and reserves (i.e., described above), the potential impacts and risks to Marine Parks and reserves are considered to be Level 2 , as they could be expected to result in localised short-term impacts to species/habitats of recognised conservation value but not affecting local ecosystem functioning.
			Refer to: - Invertebrates - Macroalgae
Human System	Commercial Fisheries	In-water exposure to entrained hydrocarbons may result in a reduction in commercially targeted marine species, resulting in impacts to commercial fishing and aquaculture. Actual or potential contamination of seafood can affect commercial and recreational fishing and can impact seafood markets long after any actual risk to seafood from a spill has subsided (NOAA, 2002) which can have economic impacts to the industry.	Any acute impacts are expected to be limited to small numbers of juvenile fish, larvae, and planktonic organisms, which are not expected to affect population viability or recruitment. Impacts from entrained exposure are unlikely to manifest at a fish population viability level. Any exclusion zone established would be limited to the safety exclusion zone around the vicinity of the release point, and due to the rapid weathering of hydrocarbons would only be in place whilst well-kill activities are enacted, therefore physical displacement to vessels is unlikely to be a significant impact.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		Several commercial and state fisheries operate in the social EMBA and overlap the spatial extent of the water column hydrocarbon predictions.	The potential consequence to commercial and recreational fisheries is assessed as Level 2 based on the potential for localised short-term impacts to species/habitats of recognised conservation value, but not affecting local ecosystem functioning. Refer also to: Fish and Sharks
	Recreation and Tourism	In-water exposure to entrained condensate could overlap and may result in a negative impact to recreation and tourism activities. Tourism and recreation activities can be indirectly exposed to impacts from in-water hydrocarbons, as the activities are often linked to the presence of ecological features, such as marine fauna (e.g., whale watching, recreational fishing).	Any impact to receptors that provide nature-based tourism features (e.g., whales) may cause a subsequent negative impact to recreation and tourism activities. However, the relatively short exposure durations (of generally low exposures) indicate short-term and localised consequences, assessed as Level 2 . Refer also to: - Fish and Sharks - Cetaceans - Invertebrates - Recreational Fishing

Table 6-33: Consequence Evaluation for Condensate Exposure - Shoreline

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Ecological Receptors			
Habitat	Rocky Shoreline	Rocky shores are within the area potentially exposed to hydrocarbons ashore. Rapid evaporation is expected to occur during the first 24 hours with the condensate is predicted to readily entrain into the water column under all wind speeds (in particular the higher wind speeds) The tides and constant wave washing are expected to lead to rapid weathering of any hydrocarbons in the intertidal area and it	The sensitivity of a rocky shoreline to oiling is dependent on a number of factors including its topography and composition, position, exposure to oceanic waves and currents etc. Exposed rocky shorelines are less sensitive than sheltered rocky shorelines. One of the main identified values of rocky shores/scarps is as habitat for invertebrates (e.g., sea anemones, sponges, sea-squirrels, molluscs). Rocky areas are also utilised by some pinniped and bird species; noting that foraging and breeding/nesting typically occurs above high tide line.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		is unlikely that toxicity or smothering effects to exposed fauna will occur on this type of shoreline. Oil can become concentrated as it strands ashore. However, as on all types of shoreline, most of the oil is concentrated along the high tide mark while the lower/upper parts are often untouched (IPIECA, 1995).	The impact of oil on any organism depends on the toxicity, viscosity and amount of oil, on the sensitivity of the organism and the length of time it is in contact with the oil. Even where the immediate damage to rocky shores from oil spills has been considerable, it is unusual for this to result in long-term damage and the communities have often recovered within 2 or 3 years (IPIECA, 1995). The potential consequence to rocky sites from a worst-case condensate release is assessed as Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function.
	Sandy Shoreline	Sandy beaches are predicted to be within the area potentially exposed to hydrocarbons ashore. Sandy beaches are the predominant habitat type within the stretch of coast where shoreline contact could be expected from a Subsea Well LOC. As the volatile components evaporate and the oil weathers, the oil will resolidify and the risk of exposure decreases. Oil can become concentrated as it strands ashore. However, as on all types of shoreline, most of the oil is concentrated along the high tide mark while the lower/upper parts are often untouched (IPIECA, 1995). A sandy beach may allow oil to percolate through the sand, thus increasing its ability to hold more oil ashore over tidal cycles and various wave actions than an equivalent area of water; hence oil can increase in thickness onshore over time.	Sandy beaches are considered to have a low sensitivity to hydrocarbon exposure. Sandy beaches provide habitat for a diverse assemblage (although not always abundant) of infauna (including nematodes, copepods and polychaetes); and macroinvertebrates (e.g., crustaceans). There is a very small area between Princetown and Moonlight Head where the OSTM indicates that shoreline oiling may occur above 100 g/m² may occur (1% probability of contact). This area is dominated by sheer rocky cliffs with very small areas of sandy beach/rock platform. Given the low viscosity of this residue it is likely to permeate into sand areas in a similar way to MDO. The tides and constant wave washing are expected to lead to rapid weathering of any hydrocarbons in the intertidal area and it is unlikely that toxicity or smothering effects to exposed fauna will occur on this type of shoreline. Consequently, the potential impacts and risks to sandy shores from a worst-case loss of condensate are considered to be Level 3, as they could be expected to result in localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function.
	Mangroves	Strands of mangroves are predicted to be within the area potentially exposed to hydrocarbons ashore; however, within the stretch of coast expected to be exposed, there is no coastal habitat mapped specifically as this vegetation type. Oil can enter mangrove forests when the tide is high and be deposited on the aerial roots and sediment surface as the tide recedes. This process commonly leads to a patchy distribution of	Mangroves are considered to have a high sensitivity to hydrocarbon exposure. Mangroves can be killed by heavy or viscous oil, or emulsification, that covers the trees' breathing pores thereby asphyxiating the subsurface roots, which depend on the pores for oxygen. Mangroves can also take up hydrocarbons from contact with leaves, roots or sediments, and it is suspected that this uptake causes defoliation through leaf damage and tree death (Wardrop <i>et al.</i>, 1987). Acute impacts to

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		the oil and its effects because different places within the forests are at different tidal heights (IPIECA 1993, NOAA, 2014). The physical smothering of aerial roots by standard hydrocarbons can block the trees' breathing pores used for oxygen intake and result in the asphyxiation of sub-surface roots (International Petroleum Industry Environmental Conservation Association (IPIECA 1993). Rapid evaporation is expected to occur during the first 24 hours with the condensate predicted to readily entrain into the water column under all wind speeds (in particular the higher wind speeds). Due to the high volatility of the condensate, little is predicted to remain on the water surface after the spill ceases.	mangroves can be observed within weeks of exposure, whereas chronic impacts may take days, months or years to detect. Given the non-persistent nature of the hydrocarbon there is expected to be minimal impact from smothering of aerial roots or seedlings. Consequently, the potential impacts and risks to mangroves from a Subsea Well LOC are assessed to be Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function.
	Saltmarsh	Communities of saltmarsh are predicted to be within the area potentially exposed to hydrocarbons ashore; and is present within some estuaries and inlet/riverine systems. Some of the saltmarsh habitat along this coast will be representative of the Subtropical and Temperate Saltmarsh TEC. Oil can enter saltmarsh systems during the tidal cycles if the estuary/inlet is open to the ocean. Similar to mangroves, this can lead to a patchy distribution of the oil and its effects, because different places within the inlets are at different tidal heights. Oil (in liquid form) will readily adhere to the marshes, coating the stems from tidal height to sediment surface. Heavy oil coating is unlikely due to the highly volatile nature of the hydrocarbon.	Saltmarsh is considered to have a high sensitivity to hydrocarbon exposure. Saltmarsh vegetation offers a large surface area for oil absorption and tends to trap oil. Evidence from case histories and experiments shows that the damage resulting from oiling, and recovery times of oiled marsh vegetation, are very variable. In areas of light to moderate oiling where oil is mainly on perennial vegetation with little penetration of sediment, the shoots of the plants may be killed but recovery can take place from the underground systems. Good recovery commonly occurs within one to two years (IPIECA, 1994). The potential consequence to saltmarsh is assessed to be Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function.
Marine Fauna	Invertebrates	Invertebrates that live in intertidal zones include crustaceans, molluscs and infauna. These fauna can be present in a wide range of habitats including sandy beaches and rocky shores (refer also the exposure evaluation for these habitats). Exposure to hydrocarbons for invertebrates is typically via direct contact and smothering but can also occur via ingestion.	There is a 1% probability of shoreline exposure over 100 g/m² at isolated areas of shoreline east of Princetown from a Subsea Pipeline LOC at the closest point to shore (i.e. the HDD exit), however no shoreline contact is predicted for the well failure scenario. Inshore and intertidal benthic species may be exposed to condensate (albeit slightly weathered). Benthic communities associated with inshore reefs would be exposed to very low-level hydrocarbons.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
			The predicted area of shoreline contact is mixed sand/shore platform. Residues deposited on these areas are rapidly remobilised due to wave and tidal action, so any accumulation is likely to be short-term and temporary. At 100 g/m², resident fauna such as worms, molluscs and crustaceans may suffer lethal impacts if hydrocarbons penetrate into sediments. On this basis, impacts to near-shore benthic and shoreline assemblages are considered to be limited, localised, and if impacts occur, areas will be rapidly recolonised by adjacent species, and are assessed as Level 2 consequence.
	Seabirds and Shorebirds	Listed marine, threatened and/or migratory bird species have the potential to be resting, feeding or nesting within the area predicted to be exposed to hydrocarbons ashore. This fauna can be present in wide range of habitats including sandy beaches and rocky shores (refer also the exposure evaluation for these habitats). There are several foraging, breeding and aggregation BIAs throughout the area, however these species are oceanic foragers, not shoreline foragers. Shorebirds will still utilise intertidal and onshore zones for feeding (no BIAs have been identified).	Shoreline species may suffer both direct oiling and potential displacement from foraging and nesting sites. Acute or chronic toxicity impacts (death or long-term poor health) to small numbers of birds is possible, however this is not considered significant at a population level. Direct oiling of nesting sites is considered unlikely as hydrocarbon would typically accrue within the upper swash zone, and nests would occur above this level on a beach. However, oiled fauna may track oil into their nests, which may then have subsequent impacts on any eggs present. This would be more of a risk for fauna, such as the Little Penguin, that have to traverse the intertidal area to reach nesting sites. There are no known breeding locations for penguins along the Otway mainland coast at risk of shoreline oil accumulation. In addition, given the volatility of the exposed oil, any impact to nests is expected to occur to individuals and not considered to pose a long-term risk at population level. Given the potential for sensitive shoreline habitat to be exposed to hydrocarbons above the actionable >100 g/m² shoreline exposure thresholds, the length of shoreline that has the potential to be exposed and the peak volume potentially accumulated ashore, the consequence has been assessed as Level 2.
	Marine Reptiles	Turtles nesting on exposed shores would be exposed by direct contact with skin/body. However, there are no BIAs or habitat critical to the survival of the species within the shorelines that could be potentially affected. Therefore, shoreline exposure to marine turtles is not expected and not evaluated further.	NA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
	Marine Mammals (Pinnipeds)	Listed marine and/or threatened pinniped species have the potential to present within the area predicted to be exposed to hydrocarbons ashore. Pinnipeds hauling out on exposed shores could be exposed by direct contact of oil with skin/body. Direct oiling is possible but expected to have a limited window for occurring due to rapid weathering of condensate.	Pinnipeds have high site fidelity and can be less likely to exhibit avoidance behaviours, thus staying near established colonies and haul-out areas. Small colonies of NZ and Australian fur-seals occur at Lady Julia Percy Island, outside of the ecological shoreline EMBA and at Moonlight Head/Cape Volney which is located within the shoreline exposure EMBA. The potential impacts to pinnipeds from a shoreline hydrocarbon exposure event are considered to be Level 2, as the impacts could be expected to result in localised short-term impacts to species/habitats of recognised conservation value but not affecting local ecosystem functioning.
Social Receptors			
Natural System	State Parks and Reserves	There are State Parks and Reserves predicted to be within the area potentially exposed to hydrocarbon onshore. The Australian Marine Parks with probability of exposure within the social EMBA is the Apollo Australian Marine Park however these do not have shorelines. There are 25 State and Territory Reserves (19 terrestrial protected areas and 6 marine protected areas) and one regional forest agreement in place within the social EMBA. It is expected that most of the oil on shorelines will be concentrated along the high tide mark while the lower / upper parts of the shore are often untouched (PIECA, 1995). Values associated with these areas include providing habitats for a diverse range of invertebrates, fish, mammals and birds.	For those parks and reserves with boundaries that extend into the intertidal zone, any impact is expected to be restricted to the area seaward from the high tide line, and therefore represent a small proportion of the overall park or reserve area. Based on the potential risks of key ecological receptors (e.g., sandy beaches, pinnipeds), the potential impacts and risks to State marine protected areas are considered to be Level 2, as the impacts could be expected to result in localised short-term impacts to species/habitats of recognised conservation value but not affecting local ecosystem functioning.
	Wetlands	Wetlands are predicted to be within the area potentially exposed to hydrocarbon ashore however there are no Wetlands of International Importance (RAMSAR). Three wetland communities with TEC status are present within the area predicted to be exposed to hydrocarbons ashore; Karst springs and associated alkaline fens of the Naracoorte Coastal Plain Bioregion, Assemblages of species associated with open-coast salt-wedge estuaries of western and central Victoria	The impacts of hydrocarbons on wetlands are generally similar to those described for mangroves and saltmarshes. The degree of impact of oil on wetland vegetation are variable and complex, and can be both acute and chronic, ranging from short-term disruption of plant functioning to mortality. Spills reaching wetlands during the growing season will have a more severe impact than if oil reaches wetlands during the times when many plant species are dormant.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
Human System		ecological community and Natural Damp Grassland of the Victorian Coastal Plains. It is expected that most of the oil on shorelines will be concentrated along the high tide mark while the lower/upper parts of the shore are often untouched (IPIECA, 1995).	The potential consequence to wetlands from exposure are assessed as Level 3 based on the potential for localised medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function. Refer also to: • Marine Invertebrates. • Seabirds and Shorebirds.
	Coastal Settlements	Coastal settlements are within the area potentially exposed to hydrocarbons ashore; however, the stretch of coast to be exposed is not densely populated. Noting that these events will be temporary, so duration of exposure is also limited. Most of the hydrocarbons will be concentrated along the high tide mark while the lower/upper parts are often untouched (IPIECA 1995) and expected to be visible.	Visible hydrocarbons have the potential to reduce the visual amenity of the area for coastal settlements. Given its rapid weathering and potential for tidal flushing and rapid degradation, the potential consequence to coastal settlements is assessed as Level 2 based on the potential for localised short-term impacts.
	Recreation and Tourism	In the event of a significant spill event from the Otway offshore assets, it is possible that some impacts tourism perception may reduce numbers visiting the Shipwreck coastline. However, impacts associated with a spill event which is visible to the public would be limited in scale, very localised in impact and temporary in nature. The material released does not have a significant surface presence (i.e., low sheens except for a Subsea Pipeline LOC which is temporary and localised). In addition, visitation to the Twelve Apostles is for its aesthetics and scenery, two aspects which are not expected to be significantly affected by a limited release condensate spill. The impact to visitation is expected to be small on this basis. Releases from offshore facilities (e.g., pipeline rupture at PLEM and well blowout) are not expected to be visible from the shoreline.	Visible hydrocarbons stranded on shorelines have the potential to reduce the visual amenity of the area for tourism and discourage recreational activities. Given condensates rapid weathering and potential for tidal flushing and rapid degradation, the potential consequence to coastal settlements is assessed as Level 2 based on the potential for localised short-term impacts. Refer also to: • Rocky Shores. • Sandy Beaches.
	Heritage	One national heritage place is present within the area potentially exposed hydrocarbons ashore: Great Ocean Road and Scenic Environs.	Visible hydrocarbons have the potential to reduce the visual amenity of heritage sites. However, it is expected that these sites would be above the high tide mark.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Receptor Group	Receptor Type	Exposure Evaluation	Consequence Evaluation
		Noting that these events will be temporary, so duration of exposure is also limited. Most of the oil will be concentrated along the high tide mark while the lower/upper parts are often untouched (PIECA 1995) and expected to be visible. Note Deen Maar has the potential to be exposed to hydrocarbons at the low threshold.	Thus, the potential consequence to heritage is assessed as Level 2 as they could be expected to result in localised short-term impacts.

6.7.5 Control Measures, ALARP and Acceptability Assessment

Table 6-34 provides a summary of the control measures and ALARP and Acceptability Assessment relevant to worst case release scenarios.

Table 6-34: Accidental Hydrocarbon Release ALARP, Control Measures and Acceptability Assessment

Accidental Hydrogen Release	
ALARP Decision Context and Justification	ALARP Decision Context: Type B The activities proposed that could lead to a LOC are not new and have been undertaken by Cooper Energy in the time since they became titleholder and operator. The wells are operated per the regulatory accepted WOMP and the pipeline per the regulatory accepted safety case and integrity management plan. The risks associated with Vessel LOC (State or Cwth waters) and Subsea Well LOC are well understood; given the spatial and temporal scale of a worst-case discharge, and the sensitivities in the region, a worst-case scenario has the potential to result in Level 3 consequences. Consequently, Cooper Energy believes that ALARP Decision Context B should be applied. However, from the outset of the planning phase, due to inherent complexity and some uncertainty associated with this aspect for this project, Context C has also been applied, and is reflected in: • The conservative assumptions used to characterise WCD scenarios for Subsea Well LOC, • Detailed assessment of potential impacts and risks, • Detailed assessment of control measures and selection of contingency measures in line with a precautionary approach, • Preparation of detailed response plans.
Control Measure	Source of Good Practice Control Measures
Preventative	
CM1: Marine exclusion and caution zones	PSZs are frequently installed over petroleum wells, structures and equipment via gazettal under the OPGGS Act where warranted by interaction risks. Temporary exclusion or caution zones are applied around vessels where they may be restricted in their manoeuvrability.
CM2: Pre-start Notifications	Under the Navigation Act 2014 (Cth), the AHS are responsible for maintaining and disseminating hydrographic and other nautical information and nautical publications including: • Notices to Mariners • AUSCOAST warnings Relevant details will be provided to the Joint Rescue Coordination Centre (JRCC) to enable AUSCOAST warnings to be disseminated.
CM10: Planned Maintenance System (Vessels)	PMSs ensure that safety-critical equipment is maintained in accordance with manufacturer specifications to enable optimal performance.
CM3: Marine Order 27: Vessel surveys and certification	AMSA MO 27: Safety of navigation and radio equipment gives effect to SOLAS regulations regarding radiocommunication and safety of navigation and provides for navigation safety measures and equipment and radio equipment requirements.
CM6: Marine Order 30: Prevention of collisions	AMSA MO 30: Prevention of collisions requires that onboard navigation, radar equipment, and lighting meets the International Rules for Preventing Collisions at Sea (COLREGs) and industry standards.
CM20: Marine Order 31: SOLAS and non-SOLAS certification	All vessels contracted to Cooper Energy will have in date certification in accordance with AMSA Marine Order 31 [Vessel surveys and certification].

CM14: Vessel compliant with MARPOL Annex I, as appropriate to class (i.e., SMPEP or equivalent)	In accordance with MARPOL Annex I and AMSA MO 91 [Marine Pollution Prevention – oil], a Shipboard Marine Pollution Emergency Plan (SMPEP) or Shipboard Oil Pollution Emergency Plan (SOPEP) (according to class) is required to be developed based upon the Guidelines for the Development of Shipboard Oil Pollution Emergency Plans, adopted by IMO as Resolution Marine Environment Protection Committee (MEPC).54(32) and approved by AMSA. To prepare for a spill event, the SMPEP/SOPEP details: • Response equipment available to control a spill event. • Review cycle to ensure that the SMPEP/SOPEP is kept up to date; and • Testing requirements, including the frequency and nature of these tests. In the event of a spill, the SMPEP/SOPEP details: • Reporting requirements and a list of authorities to be contacted. • Activities to be undertaken to control the discharge of hydrocarbon; and • Procedures for coordinating with local officials. Specifically, the SMPEP/SOPEP contains procedures to stop or reduce the flow of hydrocarbons to be considered in the event of tank rupture.
CM7: Marine Order 21: Safety and emergency arrangements	AMSA MO 21: Safety and emergency arrangements gives effect to SOLAS regulations dealing with life-saving appliances and arrangements, safety of navigation and special measures to enhance maritime safety.
CM21: NOPSEMA accepted WOMP	Under Part 5 of the OPGGS (Resource Management and Administration) Regulations 2011, an accepted WOMP is required before well activities can be undertaken. The WOMP details well barriers and the integrity testing that will be in place for the activity. The accepted WOMP (and its implementation) is therefore considered a key component of the environmental risk management for the campaign.
CM22: NOPSEMA accepted safety cases	Under OPGGS (Safety) Regulations 2009 the following safety cases will be required for the campaign: • Campaign Safety Case Revision • Otway Offshore Operations Field Safety Case Each safety case will identify all hazards having the potential to result in major accident events (MAEs) associated with the respective facility. Safety cases therefore address major source control events associated with the wells including surface and subsea well releases, and vessel collision. As part of MAE prevention and control, formal safety assessments are details and systematic assessment of the risk associated with each of those hazards, including the likelihood and consequences of each potential major accident event; and identifies the technical and other control measures that are necessary to reduce that risk to ALARP. The accepted safety cases (and their implementation) are therefore considered key components of the environmental risk management for the campaign.
CM23: Integrity Management Plan	All Otway offshore assets are maintained in accordance with the Integrity Management Plan process (CHN-IMP-0001) to maintain assets as close to their design condition as possible (Section 9.2).
Response	
OPEP C6: Source Control Emergency Response Plan	A source control emergency response plan (SCERP) is available for the activities. Where applicable to the campaign, the SCERP will address: • Arrangements for the provision of the Source Control IMT personnel (numbers, competency, capability for the duration of the response) • Arrangements for the provision of equipment and supplies

	• Arrangements for equipment and personnel monitoring and tracking • Activation and mobilisation plans, including activation and expenditure authority and regulatory approval processes • Logistics plans and providers • SIMOPS planning process • Deployment and installation plans • Well kill and shut-in plans.
CM37: OPEP	Under the Regulations, the petroleum activity must have an accepted Oil Pollution Emergency Plan (OPEP) in place before the activity commences. In the event of a Subsea Well LOC, the OPEP will be implemented. The Offshore Victoria OPEP has been developed and provides for emergency response for scenarios described under this EP. By committing to implement this EP, Cooper Energy acknowledges that any response will be implemented in accordance with the requirements described within the OPEP.
CM38: OSMP	Cooper Energy's OSMP details the arrangements and capability in place for: • Operational monitoring of a hydrocarbon spill to inform response activities • Scientific monitoring of environmental impacts of the spill and response activities. Operational monitoring will allow adequate information to be provided to aid decision making to ensure response activities are timely, safe, and appropriate. Scientific monitoring will identify if potential longer-term remediation activities may be required and potential breaches of protected places management objectives, specifically those of Australian Marine Parks.
Impact and Risk Summary	
Residual Impact Consequence	N/A
Residual Risk Consequence	Level 3
Likelihood	Subsea leak The identified control measures to prevent a Subsea Well LOC event include clear design and assurance standards, and consequently, it is considered Unlikely (D) that a LOWC would occur that as a rare combination of factors would be required for an occurrence; the event is conceivable and could occur at some time; and could occur during the activity. Pipeline LOC There are a number of potential failure modes which have the potential to result in loss of containment from the pipeline; these include external impact and pipeline corrosion. Each potential failure mode, and preventative measures is described within the facility integrity management plan. The facility integrity management plan also assigns a likelihood to each potential failure mode, termed frequency / probability of failure. The probability of failure for the Casino pipeline is between <10⁻⁵ (Remote) and 10⁻⁴ (Unlikely).
Residual Risk	Moderate
Demonstration of Acceptability	
Principles of ESD	The potential impact associated with this aspect is limited to a localized medium-term impacts to species or habitats of recognized conservation value or to local ecosystem function; remedial, recovery work to land/water systems over months/year. The activities were evaluated as having the potential to result in a Level 3 consequence thus is not considered as having the potential to result in serious or

	irreversible environmental damage. Consequently, no further evaluation against the principles of ESD is required.
Legislative and Conventions	Legislation and other requirements considered relevant control measures include: • AMSA Marine Order 3 [Seagoing qualifications] • AMSA Marine Order 30 [Prevention of collisions] • AMSAs Marine Order 91 [Marine Pollution Prevention – oil] • OPGGS(E) Regulations (Cwlth) and OPGGS Regulation (Vic) – Cooper Energy Victorian OPEP (VIC-EPER-EMP-0001) • OPGGS(E) Regulations (Cwlth) and OPGGS Regulation (Vic) - Cooper Energy OSMP (VIC-ER-EMP-0002) • Navigation Act 2014 - Notifications
Internal Context	The environmental controls proposed reflects Cooper Energy's HSEC Policy commitment to take all reasonably practicable steps to protect the health and safety of workers, contractors, partners, and communities, and ensuring its business is conducted in an environmentally responsible manner. Relevant management system processes adopted to implement and manage hazards to ALARP include: • Risk Management (MS03) • Technical Management (MS08) • Health Safety and Environment Management (MS09) • Incident and Crisis Management (MS10) • Supply Chain and Procurement Management (MS11) • External Affairs & Stakeholder Management (MS05)
External Context	No objections or claims have been raised during stakeholder consultation. Suggestions from State emergency agencies have been adopted unless otherwise discussed and agreed.
Acceptability Outcome	Acceptable

7 Risk and Impact Evaluation - First Nations Cultural Heritage Values and Sensitivities

This section evaluates the potential for project activities to affect cultural heritage and the continuation of cultural practices. In doing so, this section:

- Identifies the potential impacts to environment receptors that are, or are linked to, cultural features of the environment within the monitoring EMBA from Project aspects (Section 7.1).
- Summarises the outcomes of the impact and risk assessments (from Section 6) for environment receptors that are also cultural features, or are linked to cultural features of the environment, to characterise the relevant project aspects (Section 7.2).
- Evaluates to what degree the cultural features of the environment, and their value to first nations cultural practices and heritage, could be degraded considering the nature and scale of impacts / risk to relevant environment receptors (Section 7.3).

Environmental Performance Outcomes (EPO's) have been developed for this project that are specific to First Nations Peoples cultural heritage (Section 7.4). These EPO's are designed to be equal to or better than the acceptable levels of impact and risk:

- Cultural features are not destroyed by the activity, and
- Cultural Practices are not prevented from taking place.

Further, there are measures evaluated and adopted following research, training and consultation, to ensure acceptable levels are not exceeded and that impacts and risks are managed to ALARP.

The section has been written with consideration to N-04750-GN1344 A339814; NOPSEMA, 2024 and APSC, 2022, First Nations people's Country Plans⁵, Consultation with First Nations peoples, participation in cultural experiences and training led by Gunditjmara people on Gunditjmara Country.

⁵ Sources:

- Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023
- Wadawurrung Traditional Owners Aboriginal Corporation, 2020
- Eastern Maar Aboriginal Corporation, 2014

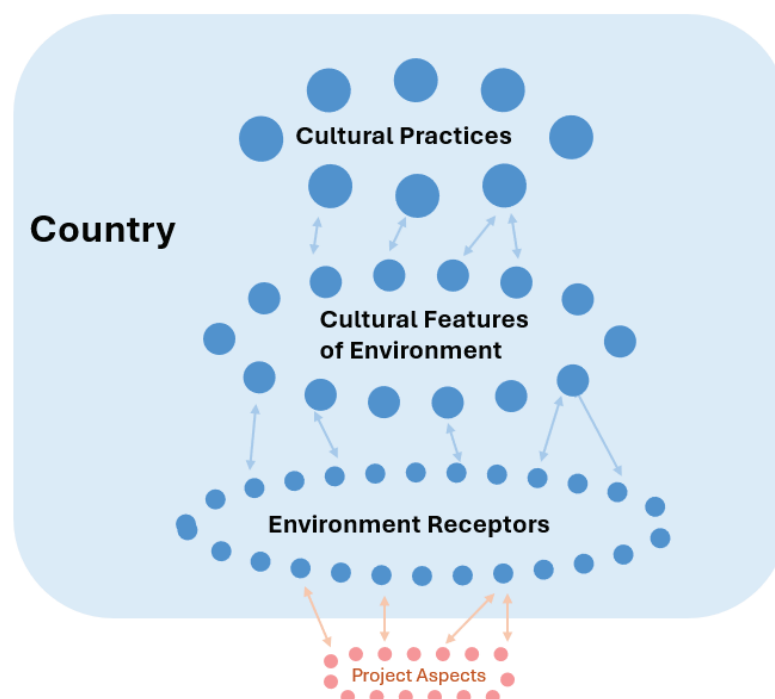


Figure 7-1: Conceptual Illustration – Interaction between Project Aspects and Environment Receptors, and links to Cultural Features and Practices

7.1 Summary of Potential Impacts to Cultural Features

Table 7-1 describes how relevant aspects of the project could impact tangible and intangible cultural features. Importantly, this is not a description of predicted impacts, but of the mechanisms by which a project aspect could affect a tangible or intangible cultural feature and its value to First Nations People. In this section, environment receptors, that are also cultural features identified through consultation as having particular value to First Nations Peoples, have been considered. These cultural features include the Bonney upwelling, Deen Maar, eel migration, and whale migration.

Table 7-1: Potential impacts to cultural features

Cultural Features	Receptors relevant to the Activity	What Activity Aspects could interact with these receptors?	How could cultural features be impacted by Activity Aspects?
Tangible cultural heritage			
Coastal/island places and objects	Coastlines (Victoria) Deen Maar Island Tyrendarra lava flow (Julia reef)	Accidental Hydrocarbon Release Spill Response	Shoreline hydrocarbon exposure has the potential to change the cultural heritage value of the site (Section 6.7) if sites are not accessible to First Nations People to be able to practice culture, or if sites are perceived to have been degraded by tainting with hydrocarbons. Table 7-2 identifies there is only low risk of minor local impacts to coastal/islands places and objects from hydrocarbon exposure in the event of unplanned discharge and accidental hydrocarbon release events. Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to, cultural features and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Cultural Features	Receptors relevant to the Activity	What Activity Aspects could interact with these receptors?	How could cultural features be impacted by Activity Aspects?
Submerged sites	Tyrendarra lava flow (Julia reef)	Accidental Hydrocarbon Release	Seabed disturbance (Section 6.3) has the potential to change the cultural heritage value of submerged landscapes if that disturbance is widespread and within those landscapes that feature within cultural practices, traditions and customs. There are no potential impacts to the seabed from the activity which have more than a localised footprint (within the operational area), and therefore there will be no landscape scale impacts, or affects on the submerged elements of the Tyrendarra lava flow which is >50 km from the operational area. Table 7-2 identifies there is only low risk of minor local impacts to environment receptors that are linked to submerged sites from hydrocarbon exposure (in the event of unplanned discharge and accidental hydrocarbon release events). Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to cultural features, and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices.
Intangible cultural heritage			
Sea Country	State and Cwth Waters, including the Commonwealth Marine Environment, and habitats and species therein.	All Aspects	First Nations cultural heritage values associated with Sea Country, including culturally significant ecosystems and species, are considered based on their ecological values, food sources, and/or culturally significant totemic values. The First Nations people's values associated with culturally significant marine ecosystems and species have the potential to be disrupted if there are impacts to ecosystem functioning and integrity or species population. Table 7-2 summarises potential impacts and risks to environment receptors that are linked to Sea Country are mostly limited to localised and short-term impacts (Level 1 or 2 consequences), with no impacts at species population levels. The introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response is a risk of up to Moderate severity (consequence Level 4 and 3 (respectively)). Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to cultural features, and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Cultural Features	Receptors relevant to the Activity	What Activity Aspects could interact with these receptors?	How could cultural features be impacted by Activity Aspects?
Creation/ Dreaming sites, songlines, sacred sites and Ancestral beings	Deen Maar Island Tyrendarra lava flow (Julia reef)	Accidental Hydrocarbon Release Spill Response	Impacts and risks to seabed habitats and Deen Maar has the potential to impact First Nations cultural heritage values of Creation/Dreaming, songlines, sacred sites and Ancestral Beings at these sites. Shoreline hydrocarbon exposure (Section 6.7) to Deen Maar has the potential to impact the cultural heritage values (Creation/ Dreaming sites, sacred sites and Ancestral beings) of these sites if they are physically or visually degraded by hydrocarbons or response efforts. Karntubul (whales) are Ancestors of Gunditj Mirring and have featured in Dreaming stories, ceremony, song and dance of Gunditjmara for thousands of years. Whale Dreaming stories connect First Nations Peoples along the coastlines of Australia and strengthen the connection between neighbouring First Nations groups in Victoria. Protection of whales is essential to Gunditjmara spiritual and physical well-being.
	Whales	Multiple Aspects – see Section 7.2	Section 7.2 summarises potential impacts and risks environmental receptors that are linked to Creation/ Dreaming sites, songlines, sacred sites and Ancestral beings are mostly limited to localised, short-term and recoverable impacts (Level 1 or 2 consequences). However the introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response have a risk of up to Moderate severity (consequence Level 4 and 3 (respectively)). Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to, cultural features and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices, traditions and customs.
Cultural obligations to care for Country Knowledge systems Connection to Country	State and Cwth Waters, including the Commonwealth Marine Environment, and habitats and species therein.	All Aspects	The potential disruption to the cultural ties to and responsibility to care for Sea Country is linked by potential impacts to the environment and the exclusion of First Nations people from Country or decision-making processes. Potential change to knowledge on cultural heritage values will occur when the value is displaced, depleted or there is significant reduction in population of the value. If the value doesn't exist within the local area of Country, knowledge systems of that value will be disrupted or lost. Limitation on access, for safety reasons, can also affect the ability of First Nations Peoples to practice their cultural obligations, traditions and customs, foster knowledge systems, and maintain connection to particular elements of country. Table 7-2 summarises potential impacts and risks to environment receptors that are linked to cultural features. These impacts and risks are mostly limited to localised and short-term impacts (Level 1 or 2 consequences), with no impacts at the population level. The introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response carries a risk of up to Moderate severity for some environmental receptors that are also

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Cultural Features	Receptors relevant to the Activity	What Activity Aspects could interact with these receptors?	How could cultural features be impacted by Activity Aspects?
			cultural features, including culturally significant species and places (Deen Maar). Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to tangible and intangible cultural features, and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices, customs and traditions.
Ecosystems and species			
Culturally significant species	Food resources (current and historical): Fish, sharks, rays, eels (Kooyang), shellfish, crustaceans, whales, seals, Seabirds - collection from coastal and riverine environments. Plankton (basis of the food chain that provides for culturally significant species) Connection to ancestors: Whales	Multiple Aspects (see Section 7.2)	Food resources: The potential change to food resources can occur when the resource is depleted (such as a reduction in population of a species) or displaced. The ability for First Nations people to continue to collect marine species (as a food resource) has the potential to change if impacts and risks to the resource species results in a reduction in population or change movements and distribution that lowers their occurrence within Sea Country of a group of First Nations Peoples. Connection to Ancestors Impacts to culturally significant species at a population level has the potential to erode the ability for First Nations people ability to care for culturally significant species, and to continue cultural practices, traditions and customs that involve those species. Table 7-2 summarises potential impacts and risks to environment receptors, that include culturally significant species linked to resources, and those linked to ancestors (and associated obligations to care for those species as part of caring for Sea Country). The levels of impact are mostly limited to localised and short-term impacts (Level 1 or 2 consequences), with no impacts at the population level. The (unplanned) introduction, establishment and spread of IMS and accidental hydrocarbon release have a risk of up to Moderate severity (consequence Level 4 and 3 (respectively)). Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to cultural features, and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices.
Bonney Upwelling (productivity of)	Bonney Upwelling (Key Ecological Feature)	GHG Emissions	In relation to the physical occurrence and characteristics of the Bonney Upwelling, Butler et al. (2004) identify climate change as a possible influence on its strength or frequency, though was not of serious concern. Table 7-2 identifies GHG emissions associated with the activity as having a Level 1 Consequence, in the context of being equivalent to a small proportion of national GHG budgets that are linked to NDCs under the Paris agreement to limit the effects of global warming. Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to cultural features, and evaluates the potential for degradation of those cultural features, and

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Cultural Features	Receptors relevant to the Activity	What Activity Aspects could interact with these receptors?	How could cultural features be impacted by Activity Aspects?
			to their value in relation to continuation of cultural practices, customs and traditions.
Water quality	State and Cwth Waters, including the Commonwealth Marine Environment, and habitats and species therein.	Multiple Aspects (see Section 7.2)	Impacts to water quality from hydrocarbon exposure (Section 6.7), seabed disturbance (Section 6.3), and discharges (Section 6.2.1 and 6.2.2) result in potential physical/tangible change to cultural heritage value of oceans and waterways. Table 7-2 summarises potential impacts and risks to water quality are mostly limited to localised, short-term and recoverable impacts (Level 1 consequences or low risk severity). Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to cultural features, and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices, traditions and customs.
Nearshore benthic habitats	Seabed in State Waters, including the habitats and species therein.	Accidental Hydrocarbon Release Introduction and establishment of IMS	Change to benthic habitats occurring at a widespread level, such as the introduction, establishment and spread of IMS (Section 6.6), has the potential to change the cultural heritage values of benthic ecosystems in coastal environment that provide habitat for culturally significant species, and resources for First Nations people. Table 7-2 summarises potential impacts and risks to benthic habitats from the activity; these are limited to localised and short-term impacts (Level 1 consequence) within the operational area. However the introduction, establishment and spread of IMS has a risk of up to Moderate severity (Level 4 consequence), with impacts having the potential to extend beyond the operational area. Section 7.3 considers the level of impact and risk to environment receptors that are also, or that are linked to cultural features, and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices, traditions and customs.
Intertidal communities and shorelines	Victorian State waters and shorelines: Macroalgae, coastal saltmarsh, rocky and sandy shorelines.	Accidental Hydrocarbon Release Introduction and establishment of IMS Spill Response	Shoreline hydrocarbon exposure (Section 6.7.4) and spill response activities (Section 8.6 and 8.7) resulting in potential physical/tangible change to cultural heritage value of intertidal communities and shorelines. Table 7-2 summarises potential impacts and risks to intertidal communities and shorelines are mostly limited to localised and short-term impacts (Level 1 consequence). However the introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response is a risk of up to Moderate severity (consequence Level 4 and 3 (respectively)). Section 7.3 considers the level of impacts and risks to environment receptors that are also, or that are linked to cultural features, and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices, traditions and customs.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Cultural Features	Receptors relevant to the Activity	What Activity Aspects could interact with these receptors?	How could cultural features be impacted by Activity Aspects?
Marine Park/ coastal reserves / wetlands	Marengo Reef (State waters)		Hydrocarbon exposure (Section 6.7) resulting in potential physical/tangible change to cultural heritage value of Marine Parks, coastal reserves and wetland habitats that sustain culturally significant species. Table 7-2 summarises potential impacts and risks to marine parks/coastal reserves/wetlands are mostly limited to localised and short-term impacts (Level 1 consequence). However the introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response is a risk of up to Moderate severity (consequence Level 4 and 3 (respectively)). Section 7.3 considers the level of impacts and risks to environment receptors that are also, or that are linked to cultural features, and evaluates the potential for degradation of those cultural features, and to their value in relation to continuation of cultural practices, traditions and customs.

7.2 Activity Aspect Interactions with Cultural Features

Offshore activities within or adjacent to Sea Country has the potential to impact tangible and intangible cultural features of the environment. Table 7-2 below identifies the potential interactions between the particular aspects of this activity and relevant Cultural Features of the environment identified through consultation, review of Country Plans, on Country Training, listening, and desktop research. Within Table 7-2, for each cultural feature, the level of impact or risk is identified for the environment receptor that is intrinsically linked to, is part of, or is also that cultural feature.

The evaluation for each relevant environment receptor is detailed within Sections 6 and 8. The predicted impacts to these receptors are typically localised and / or generally short-term. The risk events associated with the activity typically have a higher consequence and could result in more extensive, and longer-term impacts to environment receptors. The most severe risk events being a major loss of hydrocarbon containment, and establishment and spread of IMS. These risk events are Unlikely, or Remote, and there are established effective measures in place to prevent their occurrence.

Considering the level of impact or risk from activity aspects assists determining the spatial and temporal extent of the potential disturbance to, or degradation of, the associated cultural feature.

For further details on the intrinsic links between cultural features and environment receptors refer to Section 4.4.4.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 7-2: Aspect Interactions, and Impacts and Risks Levels for Environmental Receptors that are Cultural Features, or are part of Cultural Features

Environmental receptor where the cultural feature may exist		Project planned and unplanned aspects – the link and level of impact/risk to environmental receptors where cultural features may exist																	
Cultural feature of the environment																			
		Emissions – light	Interaction with other	atmospheric	Physical Presence - Marine Fauna	Seabed disturbance	GHG emissions	Underwater sound emissions - Continuous	Underwater sound emissions - Impulsive	Planned Discharges – Operational	Planned discharges including Cement – Vessels, IMR	Unplanned Discharge – Minor LOC (Chemicals and Hydrocarbons)	Unplanned Discharge - (Hazardous / Non-hazardous Waste)	Accidental hydrocarbon release	Introduction, establishment and spread of IMS	Spill Response			
Tangible Heritage Sites																			
Coastal/island places and objects	Heritage places:													✓	Moderate risk severity to heritage places Section 8.	✓			
Submerged sites	- Victorian coastline - Deen Maar - Tyrendarra lava flow.																		
Intangible Cultural Heritage																			
Sea Country	All physical and ecological receptors (Section 4.4.1 and 4.4.2)	✓	Consequence Level 1 - temporary and localised change in marine fauna behaviour Section 6.2.1	✓	Consequence Level 1 - temporary and localised change in air quality Section 6.2.1	✓	Consequence Level 1 – minor impacts to physical substrate Section 6.3.3.4	✓	Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4	✓	Consequence Level 2 – localised and short-term impacts to cetaceans. Moderate Risk Severity. Section 6.5.4.2	✓	Consequence Level 1 – minor local impacts to marine fauna Section 6.2.1	✓	Consequence Level 1 – minor impacts to local impacts to marine fauna Section 6.2.1	✓	Moderate risk severity to shoreline habitats Section 8.6.4		
Creation/dreaming sites, songlines, sacred sites and Ancestral beings	- Culturally significant species - Deen Maar				✓	Low risk severity to marine fauna Section 6.2.2			✓	Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4	✓	Consequence Level 2 – localised and short-term impacts to cetaceans. Low Risk Severity. Section 6.5.4.1	✓	Consequence Level 1 – minor local impacts to marine fauna Section 6.2.1	✓	Consequence Level 1 – minor impacts to local impacts to marine fauna Section 6.2.1	✓	Moderate risk severity to shoreline habitats Section 8.6.4	
Cultural obligations to care for Country	All physical and ecological receptors (Section 4)	✓	Consequence Level 1 - temporary and localised change in marine fauna behaviour Section 6.2.1	✓	Consequence Level 1 - temporary and localised change in air quality Section 6.2.1	✓	Consequence Level 1 – minor impacts to physical substrate Moderate Risk severity for offshore benthic habitats local to the	✓	Consequence Level 2 – localised and short-term impacts to cetaceans. Moderate Risk Severity. Section 6.5.4.1	✓	Consequence Level 2 – localised and short-term impacts to cetaceans. Low Risk Severity. Section 6.5.4.2	✓	Consequence Level 1 – minor impacts to marine fauna Section 6.2.1	✓	Consequence Level 1 – minor impacts to local impacts to marine fauna Section 6.2.1	✓	Consequence Level 1 – minor impacts to local impacts to marine fauna Section 6.2.1	✓	Moderate risk severity to shoreline habitats Section 8.6.4

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Environmental receptor where the cultural feature may exist		Project planned and unplanned aspects – the link and level of impact/risk to environmental receptors where cultural features may exist													
Cultural feature of the environment	Emissions – light	Interaction with other	atmospheric	Physical Presence - Interaction with Marine Fauna	Seabed disturbance	GHG emissions	Underwater sound emissions - Continuous	Underwater sound emissions - Impulsive	Planned Discharges – Operational	Planned discharges including Cement – Vessels, IMR	Unplanned Discharge – Minor LOC (Chemicals and Hydrocarbons)	Unplanned Discharge - (Hazardous / Non-hazardous Waste)	Accidental hydrocarbon release	Introduction, establishment and spread of IMS	Spill Response
					operational area Section 6.3.3.4										
Culturally significant habitats and species															
Culturally significant species and food resources:	Fish, sharks, rays, eels, shellfish and crustaceans in coastal environments					✓ Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4	✓ Consequence Level 2 – localised and short-term impacts to Fish including eggs and Larvae. Low Risk Severity. Section 6.5.4	✓ Consequence Level 2 – localised and short-term impacts to Fish including eggs and Larvae. Low Risk Severity. Section 6.5.4	✓ Consequence Level 1 – minor local impacts to marine fauna Section 6.2.1	✓ Consequence Level 1 – minor local impacts to marine mammals Section 6.2.1	✓ Low risk to water and fauna to fauna Section 6.2.2	✓ Low risk severity to marine fauna Section 6.2.2	✓ Moderate risk severity to invertebrates, fish and sharks Section 6.7.4	✓ Moderate risk severity from IMS Section 6.6.4.1	✓ Low risk severity to marine fauna Section 8.8.5
Culturally significant species	Cetaceans			✓ Low risk severity to marine fauna Section 6.2.2		✓ Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4	✓ Consequence Level 2 – localised and short-term impacts to cetaceans Section 6.5.4.1	✓ Consequence Level 2 – localised and short-term impacts to cetaceans Section 6.5.4.2	✓ Consequence Level 1 – minor local impacts to marine fauna Section 6.2.1	✓ Consequence Level 1 – minor local impacts to marine mammals Section 6.2.1	✓ Low risk to marine fauna Section 6.2.2	✓ Low risk severity to marine mammals Section 6.2.2	✓ Low risk severity to cetaceans Section 6.7.4	✓ Moderate risk severity from IMS Section 6.6.4.1	✓ Low risk severity to marine fauna Section 8.8.4
Culturally significant species	Pinnipeds			✓ Low risk severity to marine fauna Section 6.2.2		✓ Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4	✓ Consequence Level 1 – localised and temporary impacts to pinnipeds Section 6.5.4.1		✓ Consequence Level 1 – minor local impacts to marine fauna Section 6.2.1	✓ Consequence Level 1 – minor local impacts to marine mammals Section 6.2.1	✓ Low risk to marine fauna Section 6.2.2	✓ Low risk severity to marine mammals Section 6.2.2	✓ Moderate risk severity to pinnipeds Section 6.7.4	✓ Moderate risk severity from IMS Section 6.6.4.1	✓ Low risk severity to marine fauna Section 8.8.4
Culturally significant species	Seabirds	✓ Consequence Level 1 - temporary and localised change in marine fauna behaviour Section 6.2.1		✓ Low risk severity to avifauna Section 6.2.2		✓ Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4					✓ Low risk to water and fauna to fauna Section 6.2.2	✓ Low risk severity to avifauna Section 6.2.2	✓ Low risk severity to avifauna Section 6.7.4		✓ Low risk severity to marine fauna Section 8.8.4
Key Ecological Feature	Bonney Upwelling					✓ Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4									

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Cultural feature of the environment	Project planned and unplanned aspects – the link and level of impact/risk to environmental receptors where cultural features may exist															
	Environmental receptor where the cultural feature may exist	Emissions – light	Interaction with other	atmospheric	Physical Presence - Interaction with Marine Fauna	Seabed disturbance	GHG emissions	Underwater sound - Continuous	Underwater sound - Impulsive	Planned Discharges – Operational	Planned discharges – Vessels, IMR – Including Cement	Unplanned Discharge – Minor LOC (Chemicals and Hydrocarbons)	Unplanned Discharge - (Hazardous / Non-hazardous Waste)	Accidental hydrocarbon release	Introduction, establishment and spread of IMS	Spill Response
Water quality	Offshore					✓ Consequence Level 1 – localised and temporary decrease in water quality Section 6.3.3.4	Section 6.4.2.4			✓ Consequence Level 1 – minor local impacts to water quality Section 6.2.1	✓ Consequence Level 1 – minor local impacts to water and sediment quality Section 6.2.1	✓ Low risk to water Section 6.2.2	✓ Low risk severity to water quality Section 6.2.2			
Benthic habitats	Nearshore Benthic habitats													✓ Low risk severity to benthic habitats 6.7.4	✓ Moderate risk severity from IMS Section 6.6.4.1	
Intertidal communities and shorelines	Macroalgae, coastal saltmarsh, rocky and sandy shorelines.						✓ Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4							✓ Moderate risk severity to shoreline habitats 6.7.4	✓ Moderate risk severity from IMS Section 6.6.4.1	✓ Moderate risk severity to shoreline habitats Section 8.6.4
Marine Park, coastal reserve, and wetlands	Marengo Reef						✓ Consequence Level 1 – minor contribution to carbon budget Section 6.4.2.4							✓ Moderate risk severity to Marine Parks and Reserves 6.7.4	✓ Moderate risk severity from IMS Section 6.6.4.1	✓ Moderate risk severity to shoreline habitats Section 8.6.4

7.3 Evaluation

This section evaluates the potential disruption to the links between environment receptors and tangible and intangible cultural features described in 7-1 and 7-2. In doing so, this section considers the nature and scale of the planned activities, and impacts and risks to relevant environment receptors outlined in Table 7-1.

7.3.1 Tangible and Heritage Sites

7.3.1.1 Coastal/Island Objects and Places

Cultural heritage objects found along the coast and islands of the monitoring EMBA include shell middens, artefact scatters, and LDADs (the occurrence of stone artefacts at low densities) (Table 4-6). Shell middens and artefact scatters are located close to the shoreline, whereas LDADs are typically found further inland (Biosis, 2023).

Cultural heritage places located within the monitoring EMBA that are significantly mentioned within relevant Country Plans or which have been identified through consultation include:

- Deen Maar
- Tyrendarra lava flow.

Potential disruption to Cultural Features

Cultural heritage objects and places within the monitoring EMBA have the potential to be exposed to shoreline hydrocarbons in an unlikely accidental hydrocarbon release event. Exposure of cultural heritage objects and places to hydrocarbons has the potential to degrade those objects and places, and their cultural value, and disrupt cultural practices, customs and traditions which may occur as associated with the object or place if those things are tainted or access to practice culture is restricted.

Figure 4-1 shows stochastic modelling predicting shorelines with the potential to be exposed to shoreline hydrocarbon. Shoreline accumulation will be concentrated along the high tide mark while the lower/upper parts are often untouched (IPIECA, 1995). As a result, only coastal/island objects and places along the high tide mark have the potential to be exposure exposed to shoreline hydrocarbons. Cultural heritage objects and places located above the high tide mark are not expected to be exposed, and therefore, not expected to be impacted by shoreline hydrocarbons. Cultural heritage objects and places located below to low tide mark may have some limited exposure to hydrocarbons entrained in the water column.

The exposure of cultural heritage objects and places from shoreline hydrocarbons at the high tide mark could occur. Deen Maar Island, being a place considered by Traditional Owners to be linked to the transition of spirits from the earth, could be exposed to hydrocarbons around its rocky shores. Deen Maar Island is not typically accessed, but is a constant visual and spiritual link for First Nations Peoples on the Mainland; its cultural value in this respect would be unlikely to be disrupted by a spill of hydrocarbons of the nature and scale provided for within this plan. The topography of Deen Maar Island, and exposure to the ocean, provides a natural resilience against hydrocarbon spills; rocky shores lead into steep cliffs to the vegetated plateau high above the water. Due to the exposed location of Deen Maar Island, the highly volatile nature of the hydrocarbons associated with this activity (light non-persistent), hydrocarbons accumulating on shorelines in the region, and potentially around cultural heritage objects and places, are likely to be readily removed in the presence of tidal and/or wave action. Beaches and rocky shores on the mainland, facing Deen Maar Island, and which may hold a place in ceremony and knowledge transfer also have the potential to be exposed to hydrocarbons, though modelling indicates that these areas (~50km from the operational area) may have the potential to be exposed to only Low concentrations of hydrocarbons; these levels of (light) hydrocarbons do not typically require intervention and are naturally dispersed over days and weeks.

The heritage value of cultural heritage objects and places temporarily exposed to shoreline hydrocarbons is not expected to change. The temporary exposure of cultural heritage objects and places to shoreline hydrocarbons may temporarily contaminate the objects or sites however, weathering of light non-persistent hydrocarbons will prevent long-term hydrocarbon exposure. Although this could disrupt cultural linkages to exposed components of the environment; this disruption would be temporary and recoverable. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

Consultation with First Nations groups indicates that First Nations People would like to be engaged in the event of a spill, to be part of the recovery efforts (Consultation Day GMTOAC 17 February 2024, Ref: FN-

GMTOAC-20240405-Email). The involvement of First Nations people would be expected to accelerate recovery of country and avoid additional disruption to cultural heritage from response efforts. It would also facilitate cultural reconnection with Sea Country impacted by a potential spill, and acknowledge the significant relationship between First Nations people, their Sea Country and the culturally significant species and ecosystems.

Relevant First Nations groups will be engaged in the event an accidental hydrocarbon release will expose cultural heritage objects and places to hydrocarbons as specified in Section 6.7.4 and the OPEP. Cooper Energy maintains a list of key First Nations persons who have expressed an interest in playing a key role in the protection of cultural heritage during such emergency events.

The intrinsic link between coastal/island objects and associated Cultural Features is expected to be maintained given values of the objects and places is not expected to change and First Nations people will be central to the management of these objects and places in the event of an accidental hydrocarbon release.

7.3.1.2 Submerged Sites

Sea Country is considered by First Nations groups to extend beyond formally defined RAP areas to include sea and submerged lands to the edge of the continental shelf. Planned activities and aspects with the potential to interact with the seabed are limited to within the Operational Area. Unplanned events and aspects that could affect submerged sites are Accidental Release of Hydrocarbons.

Potential disruption to Cultural Features

Submerged sites have the potential to be impacted by Project aspects that disturb the seabed. Disturbance to seabed within the operational area is expected to be localised and recoverable (Table 7-2). The area of impact is small compared to the extent and distribution of the substrate types within the Operational Area across the wider region (Sections 6 and 8, Table 7-2). No underwater cultural heritage sites, including other cultural artefacts, have been identified within the Operational Area (Section 6.3.3.4).

Given the operational area, and associated seabed disturbance is located away (>50 km) from described landscape features of particular cultural significance (Tyrenderra Lava Flow), the expected absence of artifacts, and that disturbance to cultural heritage (if it were unexpectedly found) is regulated to avoid damage (CM39: Underwater Cultural Heritage Disturbance Risk Management Measures), the intrinsic link to between submerged sites and First Nations people is expected to be maintained.

An accidental release of hydrocarbons has the potential to impact on submerged sites, via contact with hydrocarbons entrained within the water column. However, given the limited volumes, and low persistence of the hydrocarbons associated with this activity, any hydrocarbon contact would be brief, and would not be expected to change the nature or integrity of submerged features.

The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

7.3.2 Intangible Heritage Sites and Values

7.3.2.1 Sea Country

Sea Country is an intrinsic value to First Nations people. It includes parts of open ocean, beaches, land and freshwater on the coast, habitats and encompasses all living things, beliefs, values, creation spirits and cultural obligations connected to an area. The operational area and monitoring EMBA overlaps Sea Country. Many First Nations groups have a close connection with the sea and its resources which are central to culture. It is a place of abundant resources and habitat to culturally significant flora and fauna. Caring for Sea Country is vitally important to First Nations groups of the Otway region. First Nations people's wellbeing and confidence is reliant on the authority to access and practice on Country (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023; Eastern Maar Aboriginal Corporation, 2014).

Potential disruption to Cultural Features

Project impacts and risks to the biological and physical components of sea country are described in Sections 6 and 8. First Nations intangible cultural heritage values associated with Sea Country including ecosystems and species are considered based on their ecological values, food sources or culturally significant totemic values. First Nations people's values of marine ecosystems and species have the potential to change if there are impacts to ecosystem functioning and integrity or species population.

As summarised in Table 7-2, potential impacts and risks to fish, marine mammals and seabirds and shorebirds, and water and sediment quality are mostly limited to localised and short-term impacts (Level 1 or 2 consequences), with no impacts at the population level, or which would manifest in disruption to a cultural feature. As an existing activity with limited nature and scale, potential disruption to Sea Country values is expected to be negligible; energy infrastructure has previously been installed on the seabed as well as onshore, and continues to coexist with First Nations Peoples values, memories and songlines relating to Country (AMCI 2010; Biosis, 2023).

The introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response are a risk of up to Moderate severity, and could affect marine resources, including resources collected by First Nations Peoples in coastal areas. With preventative and response controls in place, impacts and risks from these aspects are not expected to eventuate, nor to result in widespread long-term impacts to Sea Country or impacts to ecosystem functioning and integrity or species populations. Links between environment receptors and Cultural Features could be disrupted in the unlikely event of a major hydrocarbon spill, or remote event of IMS introduction and spread, but are expected to be recoverable. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

7.3.2.2 *Creation/ Dreaming sites, songlines, sacred sites and Ancestral beings*

Creation/ Dreaming sites, songlines, ceremonial sites link First Nations people to ancestors, culture, traditions, customs, traditional laws and Country. Deen Maar is an important Dreaming site where Ancestors leave the earth. Karntubul (whales) are Ancestors of Gundijmara and feature in dreaming stories, ceremony, song and dance of Gundijmara.

Potential disruption to Cultural Features

Project impacts to seabed are limited to the operational area, offshore and are not associated with landscapes of particular cultural significance such as the Tyrendarra Lava Flow. Project risks events have the potential to affect cultural features highlighted as of importance during consultation, including the Deen Maar, and whales. These project risks therefore have the potential to disrupt cultural features of Creation/Dreaming, songlines, sacred sites and Ancestral beings. Energy infrastructure has previously been installed on the seabed as well as onshore, and continues to coexist with First Nations peoples' values, memories and songlines relating to Country (AMCI 2010; Biosis, 2023).

Shoreline hydrocarbon exposure to Deen Maar has the potential to change the intangible cultural heritage values (for example, Creation/ Dreaming sites, sacred sites and Ancestral beings) of these sites. As evaluated in Section 7.3.1.1, the (risk) temporary exposure of Deen Maar to shoreline hydrocarbons is not expected to change the heritage values of the site. The temporary exposure to shoreline hydrocarbons may temporarily contaminate the sites however, weathering of light non-persistent hydrocarbons will prevent long-term hydrocarbon contamination. Relevant First Nations groups will be notified in the event an accidental hydrocarbon release will expose Deen Maar to hydrocarbons as specified in Section 6.7.4 and the OPEP. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

Cooper Energy maintains a list of key First Nations persons who have expressed an interest in playing a key role in the protection of cultural heritage during such emergency events. The intrinsic link between First Nations people and cultural heritage values (Creation/ Dreaming sites, sacred sites and Ancestral beings) of Deen Maar is expected to be maintained given First Nations people will be central to the management of these sites in the event of an accidental hydrocarbon release.

As summarised in Table 7-2, potential impacts to whales from Project aspects are mostly limited to localised and short-term impacts (Level 1 or 2 consequences), such as small, temporary changes to migratory or foraging behaviours (see Section 6.5.4.1), and which be managed to minimise behavioural disturbance to southern right whales and blue whales. The risk of vessels physically interacting with whales is Low and managed through the implementation of cautionary and no-approach zones around whales. These risks, though unlikely, if they were to eventuate, are not anticipated to impact population levels, distribution or local ecosystem function. With controls in place, impacts and risks to whales from Project aspects are not expected to impact the intrinsic link between First Nations people and whales that are valued as Ancestral beings, and will not affect populations or distributions of whales to the extent that Gundijmara practice of 'calling in' whales would be disrupted. As such, the intrinsic link between First Nations people and Ancestral beings (whales) is expected to be maintained. The risk severity is considered to be the same for the Cultural

Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

Cooper Energy commits to CM4: Ongoing Consultation to ensure First Nations people will be central to the management of First Nations people's heritage sites and values.

7.3.2.3 Cultural obligations to care for Country

First Nations people are culturally obligated and inherently responsible to care, protect and heal Country for present and future generations. The roles held relating to taking care of Country and knowledge holding vary amongst individuals and within clans and family groups. Roles include taking care of culturally significant species or habitats of significant species known to be important food resources (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023). The obligation to care for Country is deep rooted in First Nations cultural laws, traditions and customs (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023).

Potential disruption to Cultural Features

By sharing of information through consultation, Country Plans, and on Country teachings, First Nations people have articulated the particular values and sensitivities that are important to them, and which will require particular consideration within the assessment of impacts and risks and their management. This is consistent with their cultural ties to and inherent responsibility to care for Country. As evaluated in Section 7.3.2.1, Project aspects are not expected to result in widespread long-term impacts to Sea Country or impacts to ecosystem functioning and integrity or species populations. Table 7-2 summarises how potential impacts and risks to marine wildlife, water and cultural heritage are mostly limited to localised and short-term impacts (Level 1 or 2 consequences). As an existing activity with limited nature and scale, potential disruption to sea country values is expected to be negligible; energy infrastructure has previously been installed on the seabed as well as onshore, and continues to coexist with First Nations peoples intangible cultural heritage values including memories and songlines relating to Country (AMCI 2010; Biosis, 2023).

The unplanned introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response have the potential for moderate risk to environment receptors. With controls in place, impacts and risks to Sea Country are not expected to impact ecosystem functioning and integrity or species populations.

The exclusion of First Nations people from accessing Country or decision-making processes for Country may risk disrupting the intrinsic and important link between First Nations people and obligations to care for Sea Country. Scenarios where First Nations people are restricted in their access to Country could occur in the event of an accidental hydrocarbon release for safety reasons. To maintain and ensure First Nations people are central to the management of the Country, relevant First Nations groups will be notified in the event an accidental hydrocarbon release as specified in Section 6.7.4 and the OPEP. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

Cooper Energy maintains a list of key First Nations persons who have expressed an interest in playing a key role in the protection of cultural heritage during such emergency events. First Nations people's obligations to care for Country is expected to be respected and maintained given First Nations people will be central to the management of these sites in the event of an accidental hydrocarbon release which could impact them.

Cooper Energy commits to CM4: Ongoing Consultation and Notification, to ensure First Nations people will be central to the management of First Nations people's heritage sites and values.

7.3.2.4 Knowledge Systems

First Nations people's ecological, spiritual, traditional and cultural knowledge is passed through the generations using cultural practices (Dreaming stories, ceremony, song and dance) where knowledge holders (Elders) are the custodians of knowledge. This knowledge includes (but is not limited to) culturally significant species, and landscape features that hold Dreaming and creation stories or are events and ceremonial places critical for intergenerational knowledge sharing and cultural practice.

Receptors relevant to First Nations people knowledge systems include:

- Culturally significant species including food resources, cetaceans, pinnipeds, seabirds and plankton (refer to Sections 7.3.3.1 to 7.3.3.5)
- Cultural heritage places including Deen Maar and Tyrendarra lava flow (refer to Section 7.3.1.1 and Section 7.3.2.2).

Potential disruption to Cultural Features

Impacts and risks resulting in the exclusion of access to cultural heritage places or displacement/reduction in the population of culturally significant species have the potential to disrupt the intrinsic link between environment receptors and knowledge systems. Project aspects are not expected to result in widespread long-term impacts to environment receptors (including those that are part of knowledge systems). Table 7-2 summarises how potential impacts and risks to environment receptors are mostly limited to localised and short-term impacts (Level 1 or 2 consequences). As an existing activity with limited nature and scale, potential disruption to knowledge systems is expected to be negligible; energy infrastructure has previously been installed on the seabed as well as onshore, and continues to coexist with First Nations peoples values, memories and songlines relating to Country (AMCI 2010; Biosis, 2023).

The unplanned introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response have the potential for moderate risk to environment receptors. If access to heritage places is restricted, knowledge systems of that value can potentially be disrupted or lost.

The potential to exclude First Nations people from accessing Country may risk disrupting the intrinsic link between First Nations people and knowledge systems. Scenarios where First Nations people are restricted access to Country may occur in the event of an accidental hydrocarbon release for safety reasons. The temporary exposure of cultural heritage places to shoreline hydrocarbons may temporarily result in restricted access to cultural heritage places. Due to the highly volatile nature of the hydrocarbons (MDO and Condensate) as a light non-persistent hydrocarbon (see Section 6.7.2.1), shoreline hydrocarbons at cultural heritage places, are likely to be easily washed off in the presence of tidal and/or wave action. As a result, access restrictions (if any) would be temporary and not long-term. Relevant First Nations groups will be engaged in the event an accidental hydrocarbon release will expose cultural heritage places to hydrocarbons as specified in Section 6.7.4 and the OPEP. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

Cooper Energy maintains a list of key First Nations contacts who have expressed an interest in the protection of cultural heritage during such emergency events. The intrinsic link between environment receptors and First Nations Peoples knowledge systems is expected to be maintained given First Nations people will be central to the management of these sites in the event of an accidental hydrocarbon release.

As summarised in Table 7-2, potential impacts and risks to culturally significant species such as fish, marine mammals and seabirds and shorebirds are mostly limited to localised and short-term impacts (Level 1 or 2 consequences). The introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response have the potential for moderate risk. With controls in place, impacts and risks from these aspects are not expected to result in impacts to species populations. As such, intrinsic link between environment receptors and First Nations Peoples is expected to be maintained.

Cooper Energy commits to CM4: Ongoing Consultation and Notification, to ensure First Nations people will be central to the management of First Nations people's heritage sites and values.

7.3.2.5 Connection to Country

First Nations people hold strong connections to the south-east marine region, as occupation of coastal areas dates back over at least 40,000 years (DoE, 2015b). The Victorian coast is of significance with respect to First Nations tangible and intangible cultural heritage. This includes areas where there may be no physical evidence of past cultural activities but includes places of spiritual or ceremonial significance, places where traditional plant or mineral resources occur or trade and travel routes (Victorian Department of Planning and Community Development, Victoria, 2008). The Operational Area and Monitoring EMBA overlap Sea Country including coastal and offshore components.

Potential disruption to Cultural Features

Impacts and risks and restriction of access to Sea Country are potential risks to the intrinsic link between First Nations people and connection to Country.

As evaluated in Section 7.3.2.1, impacts and risks from Project aspects are not expected to result in widespread long-term impacts to Sea Country or impacts to ecosystem functioning and integrity or species populations. Table 7-2 summarises how potential impacts and risks to marine fauna, water and sediment quality, and tangible cultural heritage are mostly limited to localised and short-term impacts (Level 1 or 2 consequences). As an existing activity with limited nature and scale, potential disruption of Connections to

Country is expected to be negligible; energy infrastructure has previously been installed on the seabed as well as onshore, and continues to coexist with First Nations Peoples intangible cultural heritage values, memories and songlines relating to Country (AMCI 2010; Biosis, 2023).

The introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response have the potential for moderate risk. With controls in place, impacts and risks to Sea Country are not expected to impact ecosystem functioning and integrity or species populations. As such, the intrinsic link between environment receptors and First Nations Peoples connection to Country is expected to be maintained.

As evaluated in Section 7.3.2.4, restriction of access to Country may occur in the event of an accidental hydrocarbon release for safety reasons. The presence of shoreline hydrocarbons may temporarily result in restricted access to Country. Due to the nature of the hydrocarbons associated with the project (MDO and Condensate) being light and non-persistent (see Section 6.7.2.1), shoreline hydrocarbons are likely to be readily weathered and washed off in the presence of tidal and/or wave action. As a result, if access to Country is affected, it would be temporary and not long-term. Relevant First Nations groups will be engaged in the event an accidental hydrocarbon release will expose cultural heritage places to hydrocarbons as specified in Section 6.7.4 and the OPEP. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

Cooper Energy maintains a list of key First Nations persons who have expressed an interest in playing a key role in the protection of cultural heritage during such emergency events. The intrinsic link between the intrinsic link between environment receptors and First Nations Peoples connection to Country is expected to be maintained given First Nations people will be central to the management of these sites in the event of an accidental hydrocarbon release.

7.3.3 Habitats and Species

7.3.3.1 Culturally significant species and food resources - eels

Culturally significant food resources occur in the Otway Basin. Highlighted during consultation and cultural training were short-finned eels (Kooyang). Kooyang migrate through the Otway Region including State waters and the Commonwealth Marine Area to/from freshwater systems in Gunditjmara Country to/from spawning grounds in the Coral Sea. Gunditjmara engineered aquaculture systems from volcanic formations associated with the Tyrendarra Lava flow (circa. 30,000 years old) to create Budj Bim. Eels were captured, fattened up, harvested, smoked and traded.

Potential disruption to Cultural Features

Eels are an important resource for First Nations people as identified during consultation and review of relevant First Nations group Country Plans (Table 4-6). First Nations groups and specific individuals within the groups may have responsibility to care for eels, their habitats, and tools used to farm them, to ensure associated cultural practices, and ventures such as cultural education tourism, can continue for future generations (Table 4-5). Koster et al. (2024), and Koster et al. (2021), identify conservation considerations for the short-finned eel; these include potential changes to river flows from climate change, and physical/anthropogenic habitat modification, both of which have the potential to affect the migratory success of populations, and therefore, affect the cultural practices associated with eel migration.

As summarised in Table 7-2, potential impacts to eels from Project aspects are limited to Level 2 consequences of localised and short-term impacts to behaviour of individuals, but no population level impacts. There are no habitat modifications caused by the activity which would be expected to have an impact on migration to or from freshwater systems where they are harvested. This is because of the limited nature and scale of impacts to environment receptors, generally limited to the operational area and planned activity EMBA, and the offshore location of the activity, away from freshwater habitats where the species migrates from and to, via a highly dispersed migration through the South East Marine Region.

Subsea noise generated by activity vessels and equipment has the potential to cause minor behavioural reactions in fish, including eels (i.e. possible brief changes to swimming speed / direction in the vicinity of project activities), which will not result in changes to eel migratory behaviour or success. The sources of noise, and potential effects on fish and eel is described in more detail in Section 6.5.4. There is negligible risk that planned aspects of the activity may either directly or indirectly impact on eel populations or migratory outcomes. As an existing activity with limited nature and scale, potential disruption to sea country values is expected to be negligible; energy infrastructure has previously been installed on the seabed as well

as onshore, and continues to coexist with First Nations peoples values, memories and songlines relating to Sea Country (AMCI 2010; Biosis, 2023).

The unplanned introduction, establishment and spread of IMS, and accidental hydrocarbon release from the activity carry moderate risk. With controls in place (described in Section 6 and 8), these unplanned events are not expected to occur, or result in long term impacts to species populations. As such, the cultural ties and intrinsic link between environment receptors and First Nations Peoples is expected to be maintained.

7.3.3.2 *Culturally significant Species – whales*

First Nations people around Australia have long had a strong connections to whales, which has significance as totemic ancestors to some groups. Karntubul (whales) hold deep cultural significance to the Gunditjmara and feature in Dreaming stories, ceremony, song and dance traditions.

Cetaceans are culturally significant species for the First Nations peoples as identified during consultation and review of relevant First Nations group Country Plans (Table 4-5). First Nations people have a cultural responsibility to ensure cetaceans that reside within and migrate through Sea Country are cared for and healthy and their habitat is sustained. Whales feature in Dreaming stories, ceremony, song and dance of some First Nations groups along the coasts of Australia. The protection of Karntubul (whale) species is paramount to Gunditjmara spiritual, physical wellbeing and it is the responsibility of Gunditjmara people to care for Sea Country and protect the species for present and future generations. Whales are also a resource, and Gunditjmara people still collect parts of beached whales, as has been done for thousands of years (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023).

EPBC threatened and migratory cetaceans are present within the Operational Area and Monitoring EMBA during seasonal migrations. Pygmy blue whale distribution and foraging BIAs and a southern right whale migration and reproduction BIAs overlaps the Operational Area. The monitoring EMBA intersects foraging and distribution BIAs for the pygmy blue whale, and migration and reproduction BIAs for the southern right whale.

Potential disruption to Cultural Features

First Nations groups and specific individuals within the groups may have kinship and/or responsibility to care for culturally significant species and their habitats (see Table 4-6). It is considered that impacts to species at a population level may inhibit First Nations people's ability to perform their obligations to care for culturally significant species and their habitats.

There is potential that individual whales could be behaviourally affected or physically impacted by the presence/movement and noise of vessels which may occasionally be required for inspection and maintenance of the subsea facilities. Control measures have been established to minimise the risk of physical impact and behavioural disturbance. Therefore the potential that overall whale occurrence nearby the coast, or the numbers of beached whales will be influenced by the activity is considered negligible.

As summarised in Table 7-2, potential impacts to cetaceans from Project aspects are limited to Level 2 consequences of localised and short-term impacts to behaviour of individuals, but no population level impacts; these consequences are considered to be unlikely to occur, and the risk to whales is considered to be **Low**. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Low**). This is considered appropriate as cultural practices incorporate the movement of populations of whales into the region. Whilst there may be low level impacts to individuals, these impacts are not expected to result in changes to whale migratory outcomes, impact population levels or change population distributions.

An accidental hydrocarbon release carries moderate risks. With controls in place (described in Section 6 and 8), impacts and risks from these aspects are not expected occur, or to result in impacts to species populations. As such, the cultural ties and intrinsic link between environment receptors and First Nations Peoples is expected to be maintained.

7.3.3.3 *Culturally Significant Species – Pinnipeds*

Pinnipeds such as seals and sealions are of significant value to First Nations people. The First Nations people of the Otway region have a profound relationship with Sea Country and seals feature in cultural practices and Dreaming stories and have been hunted as a valuable food resource. Koorn Moorn (seals) feature in song and dance of the Gunditjmara people and are also a food resource. There is evidence of the

collection of seals within the Tarragal cave site that date back to 10,000 years (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023).

Seals and sealions are culturally significant species and of value to First Nations peoples of the Otway region. Important colonies are found within the EMBA and are in within proximity of the Operational Area (Figure 4-8).

Potential disruption to Cultural Features

First Nations groups and specific individuals within the groups may have kinship and/or responsibility to care for culturally significant species and their habitats (see Table 5-5 in Appendix 3). It is considered that impacts to species at a population level may inhibit First Nations people's ability to perform their obligations to care for culturally significant species and their habitats. If responsibilities have not been met it could result in a sense of powerlessness to members of First Nation groups responsible for the protection and care of these species (Holcombe, 2022).

As summarised in Table 7-2, potential impacts to pinnipeds from Project aspects are limited to Level 1 consequences of minor and local to behaviour and possible temporary changes to habitat in the offshore environment, within or local to the operational area, and not within coastal environments where fauna are more likely to be encountered by people; no discernible disruption to cultural links would be expected. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Low**).

Accidental hydrocarbon releases have the potential for moderate risk wider afield, including in coastal areas. As described in Section 6.7.4, hydrocarbon exposure, of the potential nature and scale associated with project risks, would not be expected to result in changes to pinniped foraging and breeding behaviours or impact population levels. With controls in place (described in Section 6 and 8), unplanned events of this nature are not expected to occur, or result in long term impacts to species populations. As such, the cultural ties and intrinsic link between environment receptors and First Nations Peoples is expected to be maintained.

7.3.3.4 Culturally significant Species – Seabirds

Seabirds play a vital role in First Nations cultural stories and traditions and birds and eggs are a source of food to many First Nations groups. Different avian species hold deep connections to lore and represent spiritual emblems or totems. The arrival of migratory seabirds and breeding seasons of seabirds are important markers for the different seasons observed by First Nations groups (Eastern Maar Aboriginal Corporation, 2014). Magpie gees and Cape Barren geese were harvested for food from wetland habitats (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023).

Seabirds are of significant value to First Nations people. Foraging BIAs for nine seabird species overlap the Operational Area. Foraging, breeding and aggregation areas can be found within the EMBA (BIAs are displayed in Figure 4-3 to Figure 4-5).

Potential disruption to Cultural Features

First Nations groups and specific individuals within the groups may have kinship and/or responsibility to care for culturally significant species and their habitats (see Table 5-5 in Appendix 3). It is considered that impacts to species at a population level may inhibit First Nations people's ability to perform their obligations to care for culturally significant species and their habitats. If responsibilities have not been met it may result in a sense of powerlessness to members of First Nation groups responsible for the protection and care of these species (Holcombe, 2022).

As summarised in Table 7-2 potential impacts could result from temporary changes to the physical environment, such as via the introduction of a source of artificial light. As described in Section 6.1, impacts from planned Project aspects such as light, are limited to Level 1 consequences of minor and local to behaviour, not resulting in population level impacts, or which change migratory outcomes, and which could then affect cultural practices and seasonal markers that are linked to the presence of birds. Accidental hydrocarbon release is considered a Low risk for seabirds. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Low**). With controls in place, these impacts and risks from these aspects are not expected to impact culturally significant species at a population level, as such, the cultural ties and intrinsic link between environment receptors and First Nations Peoples cultural heritage values is expected to be maintained.

The unplanned introduction, establishment and spread of IMS, and accidental hydrocarbon release from the activity carry moderate risk. With controls in place (described in Section 6 and 8), these unplanned events are not expected to occur, or result in long term impacts to species populations. As such, the cultural ties and intrinsic link between environment receptors and First Nations Peoples is expected to be maintained.

7.3.3.5 *Bonney Upwelling – Key Ecological Feature*

First Nations people recognise the significance of the Bonney Upwelling, and the crucial role it plays in the ecosystems of the Otway region. The plankton that blooms with the Bonney Upwelling system supports many culturally significance species and are integral to the diets of culturally significant marine species such as whales, seals, fish and sea birds. The Gunditj Mirring people recognise the significance of the Bonney Upwelling as a dominant feature in the Otway marine region which brings cool nutrient rich water to the surface which supports plankton blooms.

Phytoplankton and zooplankton are widespread throughout oceanic environments and will occur within the Operational Area and Monitoring EMBA with a high level of diversity. Coastal krill swarms throughout the water column of continental shelf waters primarily in summer and autumn (linked to the Bonney Upwelling), feeding on microalgae and forming a fundamental component of the food chain that provides for culturally significant species.

Potential disruption to Cultural Features

First Nations groups and specific individuals within the groups may have kinship and/or responsibility to care for culturally significant species and their habitats (see Table 5-5 in Appendix 3). Changes in the frequency or intensity of the Bonney Upwelling impacts the abundance of plankton which can have impacts on culturally significant species in the region such as whales, seals, fish and sea birds (Gunditj Mirring Traditional Owners Aboriginal Corporation, 2023).

In relation to the physical occurrence and characteristics of the Bonney Upwelling, Butler et al. (2004) identify climate change as a possible influence on its strength or frequency, though was not of serious concern. As summarised in Table 7-2, potential impacts to physical oceanographic processes are limited; the activity contributes minor quantities of GHG emissions to Australia's carbon budget (Level 1 Consequence); there are no aspects of the activity which may have a discernible effect on the occurrence, extent or productivity of the Bonney Upwelling. With regards the plankton that are associated with upwelling events, project aspects may have localised and temporary impacts to negligible proportions of the plankton population (Table 7-2). These impacts will not result in changes to plankton local or regional diversity or productivity of plankton, or those fauna which rely on them as a food source. Therefore the intrinsic link between these environment receptors and First Nations Peoples cultural heritage values associated with the Bonney Upwelling is expected to be maintained irrespective of the project activities.

7.3.3.6 *Water Quality*

Water is of particular cultural significance to First Nations peoples as an integral part Country, songs, ceremonies, hunting and collecting, and other activities that bind people to their Country and each other. Aboriginal communities in Victoria maintain strong connections to waters and culture. Water sources on Country may be culturally significant or archaeologically prospective. Traditional Owners retain knowledge of water sources that may occur within the EMBA. Water is an intrinsic value to First Nations people. It includes parts of Sea Country, beaches, land and freshwater habitats on the coast.

Potential disruption to Cultural Features

Planned discharges and unplanned releases have the potential to change water quality of offshore and coastal waters. The change in water quality has the potential to impact culturally significant species and harm Country. Community concerns from the Wadawurrung people on changes in water quality from pollution from industry and development has been noted (Wadawurrung Traditional Owners Aboriginal Corporation, 2020).

As summarised in Table 7-2, potential impacts to water quality from planned Project aspects are limited to Level 1 consequences of minor, temporary, and localised changes in the offshore environment. It is inferred that this level of impact in the offshore environment, would not cause disruption to the linkage between the environment receptor and First Nations peoples cultural practices. However, an accidental hydrocarbon release has the potential for more widespread reduction in water quality in Sea Country, and which could cause concern as to actual or perceived impacts to water quality. Relevant First Nations groups will be engaged in the event of an accidental hydrocarbon release as specified in Section 6.7.4. Cooper Energy

maintains a list of key First Nations persons who have expressed an interest in playing a key role in the protection of cultural heritage during such emergency events. With controls in place, the risks from an accidental hydrocarbon release are not expected to result in widespread long-term impacts to Sea Country or impacts to ecosystem functioning and integrity, or species populations. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Low**). As such, the intrinsic link between First Nations people and cultural heritage values associated with water quality is expected not expected to be disrupted long term, and would be recoverable.

7.3.3.7 *Benthic Habitats, Intertidal Communities and Shorelines*

Benthic habitats are valuable to First Nations people for their ecological values to sustain culturally significant species and for food resources. Benthic habitats within the EMBA include sponge-dominated reef and sandy substrates. Within the Operational area, patchy epifauna and presence of hard platform is consistent with the description of a KEF of the South-East bioregion, that is, shelf rocky reefs and hard substrates. Reefs provide habitat and shelter for fish and are important for aggregations of biodiversity and enhanced productivity (DoE, 2015b).

The operational area does not include an intertidal environment. Intertidal environment within the EMBA comprises a sandy cove and tidally submerged rock platforms with invertebrate colonisation. Sandy shorelines are valued by First Nations people for their ecological values in supporting culturally significant species. Intertidal communities and shorelines provide habitat and shelter to both marine and terrestrial fauna, including infauna and epifaunal invertebrates, fish and birds. Sea Country for Wadawurrung people includes coastal habitats such as seagrass and saltmarsh (Wadawurrung Traditional Owners Aboriginal Corporation, 2020).

Potential disruption to Cultural Features

Impacts to benthic habitats, if at a widespread level, could disrupt the intrinsic link between First Nations people and the cultural heritage values of benthic habitats. Widespread changes have the potential to impact population levels of culturally significant species which might be available as a resource.

As evaluated in Section 7.3.2.1, change in benthic habitat in the operational area is expected to be localised, short-term and recoverable (Table 7-2). The area of impact is small compared to the extent and distribution of the benthic habitats identified within the Operational Area and wider region (Sections 6 and 8, Table 7-2). Planned activity aspects will not impact on coastal benthic habitats; there would be no change to the level or diversity of resources available to First Nations People.

Changes to ecosystem functioning and integrity of intertidal communities and shorelines poses a potential risk to the intrinsic link between First Nations people and the cultural heritage values of intertidal communities and shorelines. As summarised in Table 7-2, the introduction, establishment and spread of IMS has the potential for moderate risk of either directly or indirectly impacting intertidal communities and shoreline habitats. With controls in place, impacts and risks from these aspects are not expected to result in widespread long-term impacts to intertidal communities and shorelines including ecosystem functioning and integrity. An accidental hydrocarbon release has the potential for widespread impacts to benthic habitat within Sea Country. This is more relevant in shallow coastal waters where there is higher potential for hydrocarbons to accumulate, and for benthic assemblages to be exposed over longer periods. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

Relevant First Nations groups will be engaged in the event of an accidental hydrocarbon release as specified in Section 6.7.4. Cooper Energy maintains a list of key First Nations persons who have expressed an interest in playing a key role in the protection of cultural heritage during and the recovery of Sea Country in such emergency events. With controls in place, the risks from an accidental hydrocarbon release are not expected to result in widespread long-term impacts to Sea Country or impacts to ecosystem functioning and integrity, or species populations. As such, the intrinsic link between environment receptors and First Nations Peoples cultural heritage values is expected not expected to be disrupted long term and would be recoverable.

7.3.3.8 *Marine Parks, Coastal Reserves, and Wetlands*

Marine Parks, Coastal Reserves, and wetlands are protected areas which are managed the primary purpose of conserving the biodiversity found in them, while sometimes also allowing for sustainable use of natural resources. First Nations people have strong cultural associations with Sea Country and have cultural

responsibilities of Country within Marine Parks and Reserves. The Marengo Reef Marine Park holds cultural significance for the Eastern Maar people and is a habitat for culturally significant marine species (Eastern Maar Aboriginal Corporation, 2014).

Potential disruption to Cultural Features

Changes to ecosystem functioning and integrity of Marine Parks, coastal reserves and wetlands poses a potential risk to the intrinsic link between First Nations people and the cultural heritage values of these places.

There is no overlap between the Operational Area and Marine Parks, Coastal Reserves and wetlands of International and National Importance, therefore, there is no direct risk to the intrinsic link between First Nations people and cultural heritage values associated with Marine Parks, Coastal Reserves, and wetlands for planned activity aspects.

As summarised in Table 7-2, the introduction, establishment and spread of IMS, accidental hydrocarbon release and spill response have the potential for moderate risk of either directly or indirectly impacting Marine Parks, coastal reserves, and wetlands. The Marengo Reef Marine Park comprised of rocky substrate overlaps with the monitoring EMBA; at >50km from the operational area the marine park has the potential to be exposed to only low levels of hydrocarbons, below the threshold for ecological impacts. Relevant First Nations groups will be engaged in the event of an accidental hydrocarbon release as specified in Section 6.7.4 and the OPEP. The risk severity is considered to be the same for the Cultural Feature as for the Environment Receptors that are the cultural feature, or form part of the cultural feature (**Moderate**).

Cooper Energy maintains a list of key First Nations persons who have expressed an interest in playing a role in the protection of cultural heritage during and the recovery of Sea Country in such emergency events. With controls in place to prevent and mitigate impacts if they were to occur, aspects are not expected to result in widespread long-term impacts to Marine Parks, Coastal Reserves, or to wetlands, when considering ecosystem functioning and integrity. As such, the intrinsic link between environment receptors and First Nations Peoples cultural heritage values is not expected to be disrupted long term and would be recoverable.

7.4 Control Measures, ALARP and Acceptability Assessment

Table 7-3 provides a summary of the control measures and ALARP and Acceptability Assessment relevant to interactions with cultural features of the environment relating to First Nations people's heritage sites and values.

Table 7-3: First Nations Cultural Heritage Control Measures, ALARP and Acceptability Assessment

First Nations People Cultural Heritage	
ALARP decision context and justification	ALARP Decision Context: Type B ALARP decision context B has been applied in relation to First Nations people cultural heritage because the Project carries residual (Moderate) risks and Level 4 consequences in relation to environment receptors that are linked to First Nations cultural features. Controls to manage residual risks from the project upon physical, biological and social environment receptors have been considered and established in Sections 6 and 8. Additional Controls have been considered, and selected for aspects, specifically in relation to the protection and recovery of the intrinsic links between environment receptors and cultural heritage, for those risks which are of Moderate risk severity, these are: - Underwater sound emissions (Section 6.5.5) - Introduction, establishment and spread of IMS (Section 6.6.5) - Accidental hydrocarbon release (Section 6.7.5). - Spill response (Section 8) The additional Control Measures are described below
Control Measures	Source and Description of Control Measures
	Consultation in the event of a spill will ensure that relevant First Nations peoples are involved in the protection of cultural features that may be in the spill trajectory, and that

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

CM4: Ongoing Consultation	government agencies support the protect and deflect strategy thus minimising potential impacts and risks to sensitivities. Engagement with relevant State Agencies and First Nations groups in the event of a spill, with information provided on an as-needed basis, to identify and protect cultural heritage sites from disturbance associated with spill response activities. The Eastern Maar, Gunditj Mirring, Wadawurrung indigenous groups were consulted. The Wadawurrung group felt that, given the location of the operation activities, further consultation was not required. The Eastern Maar Aboriginal Corporation would like to be contacted in the event of a spill which could impact shorelines, to provide cultural heritage advice. Additionally, the Gunditj Mirring Traditional Owners Aboriginal Corporation requested to play a role in oil spill response activities. TO organisation representative contacts have been added to the Cooper Energy Emergency Response Contacts Register (CM4).
CM39: Underwater Cultural Heritage Disturbance Risk Management Measures	Cooper Energy Cultural Heritage Disturbance Risk Management Measures acknowledge legislative requirements and establishes the methods by which potential disturbance to cultural heritage is identified including via screening, consultation, and expert advice as required. The procedure identifies management measures applicable to the offshore project to ensure impacts and risks throughout the project remain within acceptable levels and are managed to ALARP.
Impact and Risk Summary	
Residual Impact Consequence	Level 2 - Localised short-term impacts to components of the environment which are linked to cultural values and sensitivities. Planned activities and impacts will not disrupt cultural linkages with the environment.
Residual Risk Consequence	Underwater sound: Level 2 Introduction and Spread of IMS: Level 4 Accidental Hydrocarbon release: Level 3 Spill Response: Level 3 Unplanned discharges minor LOC: Level 1 Unplanned discharges waste: Level 2 Interaction with marine fauna: Level 2
Residual Risk Likelihood	Underwater sound: Possible (C) Introduction and Spread of IMS: Remote (E) Accidental Hydrocarbon release: Unlikely (D) Unplanned discharges minor LOC: Unlikely (D) Unplanned discharges waste: Unlikely (D) Interaction with marine fauna: Unlikely (D)
Residual Risk Severity	Moderate or lower for all aspects Potential long-term changes to cultural features associated with IMS and major hydrocarbon spills, though expected to be ultimately recoverable with involvement of First Nations Peoples in the response to incidents, and repair of environment receptors and associated cultural features.
Demonstration of Acceptability	
Principles of ESD	Impact from planned activities are assessed as having no greater than Level 2 consequence, which is not considered as having the potential to result in serious or irreversible environmental damage. In relation to intrinsic links to First Nations people's heritage sites and values; no disruption to these links are expected. Consequently, no further evaluation against the principles of ESD is required. The risks events associated with the activity are up to Moderate Severity, Level 4 consequence, though remote likelihood. Because of the Level 4 consequence, assessment against the principles of ESD is required. The level 4 consequence relates specifically to the risk of introducing, the spread and establishment of invasive marine species.

	With the established processes in place, there is little residual uncertainty associated with the risk of IMS introduction, spread and establishment, as the activities are well known and well-practiced in the region, the cause pathways are well known, and risks are well regulated and managed under Australian biosecurity laws and guidance, and specific risk treatment measure (IMS Risk Management Protocol) developed by Cooper Energy which operationalises the laws and guidance. Where ecosystem functions could be affected, and which could impact on resource distribution; these changes would be expected to be managed with involvement of First Nations Peoples in the response to incidents, and to protect and repair cultural features of the environment. There is not significant scientific uncertainty associated with this aspect. Therefore, the precautionary principle has not been applied beyond the precautionary measures already integrated into the IMS Risk Management Protocol (Section 10.9).
Legislation and Conventions	• OPGGS Act • Underwater Cultural Heritage Act 2018 • EPBC Act 1999 and EPBC Regulations 2000 • EPBC Act Listed Species Recovery Plans (including Blue Whale and Southern Right Whale), and species listing advice for Humpback whales • Climate Change Act 2022 (Cwth) • National Greenhouse and Energy Reporting Act 2007 (Cwth) • Paris Agreement • AMSA Marine Order 3 [Seagoing qualifications] • AMSA Marine Order 30 [Prevention of collisions] • AMSAs Marine Order 91 [Marine Pollution Prevention – oil] • OPGGS(E)R – Cooper Energy Victorian OPEP (VIC-EPER-EMP-0001) • OPGGS(E)R- Cooper Energy OSMP (VIC-ER-EMP-0002) • Navigation Act 2014 - Notifications
Internal context	Relevant management system processes adopted to implement and manage hazards to ALARP include: • Risk Management (MS03) • Health Safety and Environment Management (MS09) • Supply Chain and Procurement Management (MS11) • External Affairs, Investor Relations, Community and Stakeholder Management (MS05) Activities will be undertaken in accordance with the Implementation Strategy (Section 10).
External context	• Guditjmara Nyamat Mirring Plan 2023 – 2033 (Guditjmara Sea Country Plan) (Guditj Mirring Traditional Owners Aboriginal Corporation, 2023) • Eastern Maar Meerreengeeye Ngakeppoorryeeyt (Eastern Maar Aboriginal Corporation, 2014) • Paleert Tjaara Dja Let's make Country good together 2020 – 2030 – Wadawurrung Country Plan (Wadawurrung Traditional Owners Aboriginal Corporation, 2020) • Underwater Cultural Heritage Guidelines for Offshore Developments (DCCEEW 2019) • Assessing and Managing Impacts to Underwater Cultural Heritage in Australian Waters. Guidelines on the application of the UCH Act 2018 (DCCEEW 2024) • Consultation: All relevant persons, including First Nations Organisations and peoples have been identified, or provided the opportunity to self-identify, including, though not limited to, groups and individuals located in areas adjacent to the operational area, and areas which could be affected in the event of a hydrocarbon spill. Relevant persons, including First Nations peoples have been provided with information on the activity, and where applicable, in a format requested by them. Cooper Energy continues to provide opportunities to engage on the activities described in this plan. Section 11 provides a summary of all consultation undertaken for the activity. Feedback received during consultation which has informed this EP and the management of impacts and risks includes:

	Information from GMTOAC in relation to cultural heritage sites and values that are important to them; these were Eel migration, whale migration, the Bonney Upwelling System and associated productivity, and Deen Maar. These sites and values align with the Gunditjmara Sea Country Plan. The planned activities, impacts and risks and these values and sensitivities were discussed during the GMTOAC consultation day, and the EP has been adapted to provide a higher order of assessment than had previously been, with consideration to the links between environment receptors and cultural heritage. Control measures discussed during consultation day, and identified since then, have been adopted.
Acceptability outcome	Acceptable - The activity aspects will not impact the intrinsic links of First Nations people to the Environment. The activity is not expected to have a significant impact (e.g. changes in population levels, ecosystem function, physical oceanography of the region) on cultural features of the environment (e.g. eels, whales, seals, upwelling systems) relating to First Nations people's heritage sites, values, and cultural practices. - Whilst the activity will contact the seabed, the risk of disturbing potential cultural heritage is considered to be low given the offshore location of the activities and localised and temporary nature and scale. The (Low) risk of disturbing cultural heritage within the operational area is further reduced by recording, reporting and assessing any anomalies identified on the seabed, before they are disturbed. - The potential risks of the activity associated with unplanned events including IMS introduction, establishment and spread, and accidental hydrocarbon release, are preventable. These risks are managed to ALARP, and any impact to intrinsic links are expected to be ultimately recoverable with the involvement of respective First Nations people, and acceptable if the adopted controls are implemented. To manage impacts to receptors to or below the defined acceptable levels the following EPOs have been applied: EPO13: the activity does not prevent any cultural practice from taking place. EPO14: the activity does not destroy any cultural feature of the environment.

Table 7-4: Potential Impacts to Cultural Features - extended ALARP assessment

Additional Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion (Implement / Reject)
Management of Knowledge and Change	Disruption to cultural link to, or practice associated with, a component of the environment	By continuing to enable engagement Cooper Energy can modify control measures according to new information which may become available.	Yes	Administrative effort and travel	No new risks introduced	Implement Refer to description of MOC process within the Implementation Strategy of this EP.
Record and Report Marine Mammal Observations	Disruption to cultural link to, or practice associated with, a component of the environment	Provides data which can be viewed by interested persons. May assist alleviate any concerns in relation to the activity affecting whale migration and links to	Yes	Administrative effort	No new risks introduced	Implement Refer to reporting requirements within the Implementation Strategy of this EP. This conclusion is responsive to consultation with GMTOAC

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		cultural practices such as 'calling in whales'				and their particular interest in eel migration. Refer to consultation ID: FN-GMTOAC-20240214-Email This requirement has been included within Implementation Strategy Section 10.13.4.
Record and make available observations of culturally significant species to First Nations Groups	Disruption to cultural link to, or practice associated with, a component of the environment	May be of interest to First Nations Groups and their research partners, to build on existing knowledge.	N/a - not typically reported	Administrative effort	No new risks introduced	Implement Added to reporting requirements. within the Implementation Strategy of this EP. This conclusion is responsive to consultation with GMTOAC and their particular interest in eel migration. Refer to consultation ID: FN-GMTOAC-20240214-Email This requirement has been included within Implementation Strategy Section 10.13.4.
Tag and track any eels observed by activity ROVs	Disruption to cultural link to, or practice associated with, a component of the environment	May be of interest to GMTOAC and their research partners, to build on existing knowledge of how and when eels disperse through the Bass Strait	No precedents for activities of this nature/scale	Significant planning effort and field work and associated additional costs. Specialist researchers required to develop and implement tagging program extending overall time of the activity offshore.	Potential to cause harm to eels, and damage equipment. Not practicable in the offshore environment to capture and tag eels with ROV	Reject Not possible
Engagement of First Nations Peoples during	Disruption to cultural link to, or practice associated with,	By engaging First Nations Peoples during spill response,	Yes	Administrative effort to maintain contact details. Additional costs	No new risks introduced	Implement

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Emergency Spill Response	a component of the environment.	the response can be managed to account for, and protect cultural values and sensitivities in a culturally appropriate way.		associated with meeting fees (as applicable) Additional cost to engage First Nations Peoples during a spill response.		Included as a Control Measure within the OPEP. This conclusion is responsive to consultation with GMTOAC and their particular interest in recovery of Country in response to disasters. CM4 includes this requirement to engage with relevant First Nations Representatives in the event of a loss of hydrocarbons which may extend to coastlines to obtain advice on the management of cultural sensitivities. Refer to consultation ID: FN-GMTOAC-20240405-Email.
Project inductions to all relevant marine crew include information on the cultural links with elements of the environment that may be observed in the operational area, including whales.	Disruption to cultural link to, or practice associated with, a component of the environment.	By providing information on the cultural heritage aspects which may occur in the activity area the marine crews understanding of the importance and significance of these things may be enhanced, and will be consistent across the team.	Yes	Administrative effort / travel to prepare / deliver inductions to marine crew.	Risk of sharing information that is culturally sensitive. Mitigation: only provide information that is publicly available.	Implement Added to induction requirements within the Implementation Strategy of this EP.
Use of cultural heritage monitors on vessels to oversee implementation of controls protecting cultural values	Disruption to cultural link to, or practice associated with, a component of the environment.	No benefit. Trained marine mammal observers will be established on vessels to implement MMO protocols. Risks to UWCH are	No precedents for activities of this nature/scale	Costs associated with training additional personnel for offshore work, medical checks, mobilisation.	Potential exceedance of vessel capacity (bed space). HSEC risks associated with working offshore.	Reject Existing oversight and reporting established for the project is considered sufficient

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		considered Low given nature and scale of the activities (ref discussion with Heritage Victoria, 2024).				

8 Oil Spill Response Overview

8.1 Oil Spill Response Strategies

This section represents the risk assessment for oil spill response options as required by the Regulations. This Section informs the Offshore Victoria OPEP.

8.1.1 Hydrocarbon Spill Risks associated with the activities

Table 8-1 summarises the spill scenarios identified in Section 6.7 during the activities associated with this EP, and the relevant level. Spill levels are described in the Offshore Victoria OPEP.

Table 8-1: Hydrocarbon spill risks associated with the activities

Spill Risk	Spill Level	Fluid Type
Vessel LOC - Minor spill LOC	Level 1	MDO, hydraulic oil, chemical
Vessel LOC - Collision	Level 1 / 2	MDO (Group II)
Subsea LOC (pipeline and well release)	Level 1 / 2	Gas / Condensate

8.1.2 Response Option Selection

Not all response options and tactics are appropriate for every oil spill. Different oil types, spill locations, and volumes require different response options and tactics, or a combination of response options and tactics, to form an effective response strategy.

Net Environmental Benefit Analysis (NEBA) is the process of considering advantages and disadvantages of different spill response options (including no response) to arrive at a spill response decision resulting in the lowest overall environmental and social impacts. NEBA is undertaken at a strategic level to identify pre-determined recommended response strategies, and an operational NEBA is undertaken throughout the emergency response. The process requires the identification of sensitive environmental receptors and the prioritisation of those receptors for protection so that the strategic objectives of the response can be established.

Table 8-2 provides an assessment of the available oil spill response options, their suitability to the potential spill scenarios and their recommended adoption for the identified events.

8.2 Response Priority Areas

To support the identification of priority response areas, shoreline sensitivity analysis and mapping was undertaken guided by IPIECA principles and informed by the regional description of the environment and understanding of receptor presence in the region. The Response Priority Areas are detailed in the OPEP.

8.3 Pre-spill Net Environmental Benefit Assessment

Location specific information was used for each of the priority response planning areas to further refine receptor presence, with these receptors ranked based upon the sensitivity criteria detailed in the OPEP. An assessment of the effective spill response strategies and the net benefit they offer, specific to the sensitivities located within each of the priority response planning areas is also provided in the OPEP.

Table 8-2 provides an assessment of the available oil spill response options, their suitability to MDO and Otway fields condensate (both pipeline and well-related leaks) and their recommended adoption for Otway Offshore Operations and maintenance activities.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 8-2: Suitability of Response Options for MDO and Otway Condensates Spills

Response Option	Description	MDO Assessment	Viable Response?	Net Benefit?	Otway condensate (Pipeline and well leak)	Viable Response?	Net Benefit?
Source Control	Limit flow of hydrocarbons to environment.	Achieved by vessel SMPEP	✓	✓	<u>For Pipeline:</u> ESD shutdown systems and operator response Procedures (refer Table 8-2). <u>For well leak:</u> In accordance with the Source Control Emergency Response Plan. The plan provides a response to release incidents from wells (refer Section 8.4).	✓	✓
Monitor & Evaluate	Direct observation – Aerial or marine; Vector Calculations; Oil Spill Trajectory Modelling; Satellite Tracking Buoys To maintain situational awareness all monitor and evaluate options suitable. Manual calculation based upon weather conditions will be used at the time to provide guidance to aerial observations. Oil Spill trajectory modelling utilised to forecast impact areas. Deployment of oil spill monitoring buoys at the time of vessel incident or Subsea Well LOC during well construction will assist in	MDO spreads rapidly to thin layers. Modelling identifies that for MDO spills that under favourable conditions 4.0% of the oil mass should evaporate within the first 12 hours, with a further 32% evaporating within the first 24 hours. The remaining 54% is expected to evaporate over the next several days. Aerial surveillance is considered more effective than vessel to inform spill response and identify if oil has contacted shoreline or wildlife. Vessel surveillance limited in effectiveness in determining spread of oil.	✓	✓	Modelling identifies that the condensate comprises a significant portion of volatiles (99.2% total) with very little residual components (<1%). This means the condensate will evaporate readily when on the water surface, with limited persistent components to remain on the water surface over time. Pipeline LOC: Slow leaks from the subsea pipelines are unlikely to create a surface sheen and if present, are expected to be within 1.5 km of the spill location. For an instantaneous pipeline rupture at the HDD location, surface hydrocarbons would only be expected to remain for a short period (hours). Well leak: For a well leaks hydrocarbons will likely be present at the surface for short (hours) to medium (days to weeks) depending on the amount released.	✓	✓

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		understanding the local current regime during the spill event.				To maintain situational awareness all monitor and evaluate techniques will be considered during condensate spill incidents to understand the possible impacts.		
Dispersant Application	Breakdown surface spill & draw droplets into upper layers of water column. Increases biodegradation and weathering and provides benefit to sea-surface /air breathing animals.	MDO, while having a small persistent fraction, spreads rapidly to thin layers. Insufficient time to respond while suitable surface thicknesses are present. Dispersant application can result in punch-through where dispersant passes into the water column without breaking oil layer down if surface layers are too thin. Application can contribute to water quality degradation through chemical application without removing surface oil. Considered not to add sufficient benefits.	X	X	X	Pipeline LOC and Well leak: Otway condensates have low levels of persistent hydrocarbon and will weather rapidly. Given the low viscosity of this liquid any surface oils will spread rapidly to thin layers, as reflected in predictive modelling, and are not suited to dispersant application due to potential "punch-through" (refer to MDO assessment).	X	X
Contain & Recover	Booms and skimmers to contain surface oil where there is a potential threat to environmental sensitivities. Relies on calm sea conditions, thicknesses >10µm to collect and adequate deployment timeframes.	MDO spreads and disperses rapidly to below recoverable thicknesses. The prevailing meteorological conditions in the Otway would also likely preclude containment and recovery techniques. In general, method only recovers approximately 10-15% of total spill residue, creates significant levels of waste, requires significant effort and suitable weather conditions (calm) to be deployed. Weather conditions limit deployment in the Otway offshore environment.	X	X	X	Pipeline LOC and Well leak: Given the low viscosity of the hydrocarbons, surface oils will not be present in suitable thicknesses to make contain and recover a viable response option.	X	X
Protect & Deflect	Booms and skimmers	MDO has persistent components and has the potential to reach shorelines.	✓	✓	✓	Subsea Pipeline LOC and Subsea Well LOC:	✓	✓

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

deployed to protect environmental sensitivities. Environmental conditions (e.g., current, waves limit application)	Effective in protecting open estuaries that have environmental sensitivities (aquatic vegetation, recreational users) may benefit. Within the surface oil social EMBA is Curdies Inlet which has a high conservation value (e.g., wetlands) but is normally closed to the sea. Protection and deflection techniques should be considered is shoreline contact is predicted, the inlet is open to the sea and there is tidal exchange. These considerations mean that it is highly unlikely that MDO residue will enter the estuary. However booming or sand berms may offer some net benefit to estuarine environments which are open to the sea. Options which can be considered include a simple boom arrangement in the mouth of the estuary or installation of a temporary sand berm to prevent residue ingress. The latter is feasible as the inlet has machinery access and the inlet is periodically opened to the sea by Parks Victoria. No pre-identified booming locations have been identified given its lack of flow during the preparation of this EP. Shoreline booming (i.e., sea booming) is not considered viable due to the high energy environment of the Otway coast and the hazards of deploying and maintaining in such an environment.		Otway condensates have no persistent hydrocarbon fractions and will weather rapidly within a few hours and spread into thin layers rapidly due to its viscosity. Predictive modelling identifies that no sensitive estuary systems are threatened by surface oiling. It is noted that the closest inlet to the activity (and one of the more exposed sites from a spill scenario perspective) Port Campbell Bay has a very low probability of experiencing surface sheens during a Subsea Pipeline LOC at the HDD. Due to the prevailing and generally dynamic conditions, measures to contain surface sheens are likely to have limited success compared to other strategies, however, may be of some benefit.		
Shoreline Clean-up	Where shoreline impact is predicted,	Possible (certain areas where	Possible (certain areas where	Possible (certain areas where	Possible

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	shoreline clean-up assessment technique (SCAT) assessment is initiated. If SCAT and Net Environmental Benefit Assessment (NEBA) assess clean-up is of net benefit, initiate clean-up. Shoreline clean-up is a last response strategy due to the potential environmental impact; heavy resource requirements; health and safety concerns to responders; logistical complexities and waste management considerations	Much of the shoreline affected by MDO residues is rock platform and backing cliffs where shoreline clean-up is hazardous and due to the nature of the shoreline habitat remediates rapidly. Access to these areas is limited along the Otway coastline. MDO residue reaching accessible sand shorelines is likely to infiltrate sand where it will be susceptible to remobilisation by wave action (reworking) until naturally degraded. Due to the light nature of the product and its dispersion in the environment prior to reaching shorelines it is possible that there would be insufficient quantities for manual clean-up. MDO does not discolour shorelines as much as other hydrocarbon types. Manual collection techniques likely to have limited effectiveness. Use of sediment reworking is possible. However, the potential for shoreline assessment and clean-up will be considered as part of the NEBA in the event of a spill incident. Response strategy offers net benefit to shoreline species which are sensitive to oil spill residues (e.g., birds) (refer to Section 8.7 for risk and ALARP assessment).	access is possible)	Pipeline LOC: A Subsea Pipeline LOC at the HDD site is predicted to result in a shoreline volume of 1.25 m³ of condensate residue 1 hour after the spill event. No shoreline residues are predicted from scenarios involving offshore asset releases. Well leak: Similar to MDO spill, residues reaching accessible sand shorelines would likely infiltrate sand where the residue will be susceptible to remobilisation by wave action (reworking) until naturally degraded. Due to the light nature of the product and its dispersion in the environment prior to reaching shorelines it is possible that there would be insufficient quantities for manual clean-up. The response strategy may offer net benefits to shoreline species which are sensitive to oil residues (e.g., birds) (refer to Section 8.7 for risk and ALARP assessment). However, as per MDO shoreline assessment and clean-up is viable along certain sand sections of the Otway coast and will still be considered as part of a NEBA in the event of a spill incident.	access is possible)	Well leak: Given the nature of the Otway condensate and its rapid spreading to thin layers and limited volumes of residue washed ashore, it is predicted there will be limited impacts	✓	✓
Oiled wildlife Response (OWR)	Consists of capture, cleaning and rehabilitation of oiled wildlife. May include	Given limited size and rapid spreading of the MDO spill, large scale wildlife response is not predicted. However, there is the potential that individual birds could become oiled in the vicinity of the spill.	✓	Well leak: Given the nature of the Otway condensate and its rapid spreading to thin layers and limited volumes of residue washed ashore, it is predicted there will be limited impacts	✓	✓		

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	hazing or pre-spill captive management. In Victoria, this is managed by DEECA.	OWR may offer net benefits for both seabirds and shorebirds within the surface oil and shoreline residue zones >100 g/m² which result from the MDO spill. OWR is both a viable and prudent response option for this spill type (refer Section 8.8 for risk and ALARP assessment).			to species sensitive to oil residues such as birds. However, OWR may offer net benefits to seabirds which come into contact and area affected by these minor residues. OWR is both a viable and prudent response option for this spill type (refer Section 8.8 for risk and ALARP assessment).		

8.4 SPILL RESPONSE: Source Control

8.4.1 Source Control (LOC – MDO)

Source control arrangements for significant vessel spills resulting from fuel tank perforation includes:

- Closing water-tight doors.
- Checking bulkheads.
- Determining whether vessel separation will increase spillage.
- Isolating penetrated tanks.
- Tank lightering, etc.

Source control relies heavily upon the activation of the vessels SOPEP / SMPEP (or equivalent).

Well-related source control activities are described in Section 7.4.2.

8.4.2 Source Control (LOC – Condensate)

Well source control activities, including methodologies and resources to implement source control and limit the hydrocarbon released to the environment are detailed in the asset Source Control Emergency Response Plan (SCERP). Table 8-3 provides an overview of the applicability of subsea LOC source control response options for the Otway Offshore Operations. The subsequent sections provide further details on the scope of the activities and the resources required to implement them.

Table 8-3 Overview of Level 3 Source Control Options Applicable to Otway Offshore Operations

Parameter	Site Survey and debris clearance.	Manual Intervention of Well Control Equipment	Subsea Dispersant Application	Well Capping	Relief Well
Operations	Yes – survey would be required to confirm the leak source.	Yes – manual intervention would be attempted if remote shut-in not possible	No – dispersant not considered suitable for operational spill scenario's.	No – capping would not be suitable for a leak via tortuous leak path through the subsea tree.	Yes – a relief well response could be activated to intercept the flowing well an contain the source.
Suitability/Functionality Feasibility <i>How does the response strategy perform to achieve its required risk reduction?</i>	Site survey assists in identifying equipment status and hazards. Debris clearance equipment is used to enable access to the well if obstructed. This option enables data to be gathered and the site to be prepared to both select and enable subsequent source control options.	Capability to manually intervene the well control equipment will be maintained throughout the campaign when well control equipment is deployed.	Dispersant not expected to be of benefit for leaks of gas/condensate through tortuous leak path.	Well capping can curtail the hydrocarbon flow prior to permanent plugging of the well. In the context of the Otway Offshore Operations, capping has not been considered suitable given possible well leak scenarios during operations.	This source control technique has been proven successful in Australia (e.g., Montara) and internationally (Macondo). Considered technically feasible and effective on subsea well release scenarios for the Otway wells, Stemming the flow of hydrocarbons from a well by injecting kill density fluid into the well bore is a proven method of regaining control of a well. This is often achieved by directionally drilling a relief well to intercept the wellbore and then pumping fluid to stem the flow. Once the well is stabilised, cement can be pumped into the well to form a permanent barrier to isolate the flow zone.
Dependencies Effectiveness <i>Does the response strategy rely on other systems to perform its intended function?</i>	Response is reliant on availability of equipment and trained / experienced personnel to undertake activities: - Subsea debris removal equipment and operators. - Survey vessel, Construction and/or Support vessel. - Possible Safety Case and/or Revision.	Response is reliant on availability of equipment and trained / experienced personnel to undertake activities: - Subsea intervention equipment and operators. - Survey vessel, Construction and/or Support vessel. - Safety Case and/or Revision.	N/a	N/a	Response is reliant on availability of equipment and trained / experienced personnel to undertake activities: - Drill rig and trained staff. - Well engineering services and management contractor. - Well Control specialists. - Well Equipment availability. - Safety Case and/or Revision.
Availability and Timely	Survey and debris clearance equipment is	Capability to mount an intervention response.	N/a	N/a	Relief well MODU, services and equipment can be sourced via

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

<i>The response strategy is available to perform its function, in sufficient time?</i>	available within Australia as part of the AMOSC Subsea First Response Toolkit (SFRT). Similar packages are also available internationally including from Wild Well Control. Section 8.4.2.1 provides a detail of equipment included in the SFRT.				existing contracts and APPEA Mutual Aid MoU. Timeline breakdown is provided in below.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

8.4.2.1 Site Survey, Debris Clearance and Intervention - Scope of Activity

Site survey and debris clearance are key preliminary tasks that assist in selecting subsequent source control options.

- Survey allows the response team to understand any issues which may preclude installation of equipment or other constraints to safely enter and work in the area.
- The need for debris removal activities will be dependent upon the scenario, damage to the subsea facilities such as subsea well components well control equipment. Debris clearance may involve the use of ROVs and cutting of equipment to ensure a clear path for manual intervention.
- Intervention and is likely the earliest opportunity to stem or stop the release of hydrocarbons. Intervention would include the use of ROVs and tooling which can interface with the Otway wells.
- A decision on which equipment is used will be made at the time based on availability and suitability of equipment for the event.

Various options are available for supply (Table 8-4). Response specialists and subsea specialists such as AMOSC, Oceaneering and Wild Well control can provide equipment packages.

Table 8-4 Indicative survey and debris clearance equipment

Response Options	Equipment applicable to source control options
Survey Debris clearance Intervention	Cameras - inspection ROV operated ROVs Grinders / super grinders Impact wrenches Multipurpose cleaning tools Remote control units Hydraulic cutters Chopsaws Diamond wire cutters Hydraulic power units ROV dredges Torque tools Test jig Pressure control equipment intervention skid and operating equipment Linear valve override tools Manipulator knife Flying lead orientation tool Umbilicals

8.4.2.2 Site Survey, Debris Clearance and Intervention RTMs

Table 8-5 outlines the key activities and estimated response time model (RTM) associated with gaining access to inspection, debris clearance and intervention. The RTM considers response times for:

- Sourcing applicable vessel will be through 3rd party vessel operator. There are generally vessels available within the south-east region which could complete tasks such as inspection, but vessels with the capability to undertake debris clearance and intervention may need to be sourced from further afield.
- Sourcing applicable inspection, intervention and / or debris removal equipment will be through a 3rd party provider such as AMOSC (SFRT based in Western Australia) or subsea specialists such as Oceaneering and/or TMT depending on the equipment needs at the time; hardware may alternatively be mobilised via WWC (Houston) where it supports best case response times. Table 8-5 shows the RTM for the AMOSC SFRT equipment.

Table 8-5 RTM Site Survey, Debris Clearance and Intervention

3 rd Party (e.g. AMOSC or 3 rd alternate party supplier)	Intl Case	Mid Case	Local Case
Vessel Mobilisation Point	Asia - Singapore	Northwest Shelf	Offshore Vic Waters

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

No.	Activity description	Estimated Days	Estimated Days	Estimated Days
	Mobilise Vessel			
1	Contract and mobilise vessel to port facilities	13	8	5
	Source Subsea Equipment			
2	Initial notification to arrival of crews at warehouse to load trucks	0.25	Concurrent with Activity 1	
3	Prepare and load equipment on trucks (5 in total)	0.65		
4	Transit time (road) to Portland	3.00		
5	Callout of SME crews to Portland	Concurrent #4		
6	Unload at Portland	0.31		
7	Charge SAM (not applicable for operations)	2.00	Following vessel arrival at port	
8	Load SFRT to vessel and sea fasten	1		
9	Transit from Port of Melbourne to wellsite location and deploy	0.5		
	Total Time (days)	14.5	9.5	6.5

8.4.2.3 Relief Well – Scope of Activity

The scope of drilling a relief well is the same as drilling a standard well although it will be a deviated well due to the need to drill at distance from the original flowing well. A relief well is typically drilled as a straight hole down to a planned kick-off point, where it is turned towards the target using directional drilling technology and tools to get within 30 - 60 m of the original well. The drilling assembly is then pulled from hole and a magnetic proximity ranging tool is run on wireline to determine the relative distance and bearing from the target well. Directional drilling continues with routine magnetic ranging checks to allow for the original well to be intersected. Once the target well is intersected dynamic kill commences by pumping kill weight mud and cement downhole to seal the original well bore.

Planning for the relief well will begin simultaneously with other well intervention options. Outline relief well plans, and methodology are contained in the activity SCERP. This plan details the process for relief well design with key activities prioritised as part of the immediate response operations:

- Mobilisation of well control and relief well specialists.
- Confirmation of relief well strategy with well specialist to define MODU/vessel requirements:
 - Confirm relief well location using geophysical site survey data. This will consider the prevailing weather at the time of the incident, seabed infrastructure in the area and directional drilling requirements for well intersection.
 - Validate relief well casing design.
- Screen available MODUs in the region with current Australian Safety Case and select MODU with appropriate technical specifications to execute the strategy. A memorandum of understanding has been established between Australian operators (including Cooper Energy) to expedite access to suitable MODUs, equipment and services for relief well drilling. If required, Cooper Energy is able to request the use of a MODU, equipment and services, that may be under contract to another operator. Minimum technical specifications for the well kill are assessed in the asset SCERP based upon inputs from well control modelling reports and relief well complexity; the selected MODU will meet these requirements and be capable of operating in the Metocean conditions at the relief well location.
- Prepare and submit regulatory documentation required for relief well activities.
- Mobilise necessary equipment and services such as directional drilling equipment and appropriate ranging tools for relief well strategy.

Relief well design

The SCERP and relief well plan includes technical details as to the design and equipment requirements to drill a relief well in the Otway fields. The APPEA relief well complexity assessment provides an overview of some of the key planning considerations which are addressed within these documents. Otway relief wells score 25 / low complexity (Table 8-6).

Detailed well kill modelling has demonstrated that the Otway wells can be killed via a single relief well. Relief wells are expected to have similar formation strength as existing wells in the Otway fields, hence modelling and planning has provided for formation fracture gradients recorded during historical drilling in the Otway.

The reservoir conditions and flow rate modelling for Annie was utilised to provide a conservative worst-case scenario outlined below with respect to the Relief Well Complexity Assessment.

The basic design is for a directional relief well targeting the wellbore at base of the 244 mm (9-5/8") casing (top reservoir intersection scenario). The relief well architecture would comprise:

- 660 x 1067 mm (26" x 42") conductor hole drilled to ~ 45-60m below seabed - sufficient depth as required for conductor loading and fatigue mitigation. 914 mm (36") conductor will be installed and cemented to seabed.
- 445 mm (17-1/2") surface hole directionally drilled riserless into the Narrawaturk Marl or Pember Mudstone before running 340 mm (13-3/8") surface casing, the well will be kicked off to achieve initial build up to the target sail angle
- 311 mm (12-1/4") hole directionally drilled with BOPs installed to before running 244 mm (9-5/8") intermediate casing. The sail angle from the surface casing shoe is to be maintained until reaching proximity of the target well and dropping to inclination at TD ~ 0° with the relief well casing point is t 20 m offset of the existing wellbore, sufficient tolerance to intersect the wellbore.
- 216 mm (8-1/2") hole drilled up to TD, allowing for sufficient depth to intersection with adjustments possible in any direction from vertical. This section of the well is designed to intercept the target wellbore, which may be iterative until success.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 8-6 Relief Well Complexity Assessment (after APPEA 2021)

Design Parameter	Complexity Category								
	Low			Medium			High		
Flow potential	Low pressure well (MASP < 5kpsi) and/or tight reservoir.			Low - moderate pressure well (MASP < 10kpsi), conventional reservoir.			High pressure well (MASP > 10kpsi) and/or high permeability reservoir		
Score	1	2	3	4	5	6	7	8	9
Reservoir Fluids	Dry Gas			Wet Gas / Condensate			Crude Oil		
Score	1	2	3	4	5	6	7	8	9
Trajectory (Relief Well)	- Max. inclination < 30° - Max. DLS < 2.5°/30m - Nearest offset > 5km			- Max. inclination > 60° - Directional plan achievable with standard tools - Offset wells < 5km that required A/C screening			- Max. inclination > 60° - Short radius or high build rate through shallow formations - Multi-well location e.g., subsea drill-centre or platform		
Score	1	2	3	4	5	6	7	8	9
Surface location	No constraints on surface location			Seabed features, subsea or surface infrastructure limit choice of surface location			Detailed risk assessment or mooring design required to choose suitable relief well location due to existing infrastructure		
Score	1	2	3	4	5	6	7	8	9
Temperature	Max. BHST < 150°C			- 150°C < Max. BHST < 180°C - and/or SBM required			BHST > 180°C		
Score	1	2	3	4	5	6	7	8	9
Long-lead equipment (casing & wellheads)	Standard casing and wellheads specs – same as source well			Standard casing and wellheads specs – different from source well			Unusual casing and/or wellhead specs. May require additional effort to assure timely supply		
Score	1	2	3	4	5	6	7	8	9
Availability of technically suitable relief well rigs	Multiple suitable rigs likely to be operating offshore Australia			At least one suitable MODU likely to be operating offshore Australia, with alternative rigs available in the region			Limited availability of suitable rigs		
Score	1	2	3	4	5	6	7	8	9
Hazardous formation fluids (H₂S or CO₂)	None expected			Expected, but not likely to affect material selection or relief well location			Expected and may require special safety precautions, well materials, or affect the location of a relief well		
Score	1	2	3	4	5	6	7	8	9

MODU considerations

The default surface location offset distance of the relief well is 1 km from a flowing well. The Metocean conditions (prevailing wind and currents) are considered when finalising the surface location. The location of the relief well is positioned to ensure the relief well MODU is upwind for as much time as possible to limit potential exposure to hydrocarbons from the subsea LOC. This places a relief well in water depths between approximately 50 m and 60 m, depending on the target well.

The relief well can be executed using a semi-submersible MODU (moored) similar to that used for drilling the development wells.

Moorings are expected to extend approximately 2 km from the MODU and may therefore extend beyond the distance of the EP Operational Area, which may expand by approximately 1-2 km radius under emergency conditions.

MODU mooring and anchor suitability analysis have been completed previously for the Otway Title areas and has concluded that MODU anchors (e.g., 15mT Stevpris Mk6, a commonly available size) or rental anchors of the same or higher performance would be appropriate for Otway locations. At least two anchor handling and tow support (AHTS) vessels would be required to tow the MODU (if not self-propelled) and install the moorings. An active MODU would already be supported by AHTS vessels and hence would likely

be accompanied by those vessels during relief well drilling. AHTS vessels could also be sourced from hubs such as NWS and Singapore.

There are typically multiple semi-submersible MODUs capable of drilling such wells within Australian waters. Higher activity is typical in the NWS, though drilling MODU's have also been active in the SE region through much of the period 2017-22.

For planning purposes Cooper Energy assesses four mobilisation scenarios for sourcing a relief well MODU:

- Regional semi-submersible MODU in Victorian waters.
- Northwest Shelf semi-submersible MODU in West Australian waters.
- International (Asia) semi-submersible MODU in Singapore waters.

International time case – MODU is mobilised from Singapore

The international case model has been developed to assess mobilising a suitable MODU from outside of Australian waters. This may be due to a number of reasons for example:

- No active working MODU in Australian waters
- Deficient MODU capabilities to drill and kill the well
- MODU unable to be released due to restrictions (such as biosecurity, well control event, equipment failure, weather, regulator enforcement etc.)
- Complex scopes to suspend well and demobilise from location i.e., deep-water mooring recovery

While other suitable MODU options are likely available closer to the relief well site there should not be a requirement to look further than the area of Singapore which continually services the oil and gas and maritime industries.

The base case transit time is the longest of all cases presented. Additionally, the selected MODU should have a current Australian Vessel Safety Case and no restrictions to enter the country.

Mid time case – MODU is mobilised from Northwest Shelf

The mid case model has been developed to assess bringing in a suitable MODU from the Northwest Shelf (NWS) (location Exmouth). This may be due to a number of reasons for example:

- No active suitable working MODU in local Victorian waters
- Deficient MODU capabilities to drill and kill the well
- MODU unable to be released due to restrictions (such as biosecurity, well control event, equipment failure, weather, regulator enforcement etc.)
- Complex scopes to suspend well and demobilise from location i.e., deep-water mooring recovery

The Exmouth point of departure for the mobilisation is a nominal position in the NWS; a MODU further North in the area would require additional transit time. However, this would not be excessive or warrant a separate RTM estimate.

The NWS is the presently the main activity hub for oil and gas operations in Australia, multiple companies have continuous MODU operations on the NWS. Hence the area is likely to hold multiple options for securing relief well semi-submersible MODU. Additionally, transit time is improved when compared to the base case transit time.

Local time case – MODU is mobilised from Victorian waters

The local case model has been developed to assess a technically capable and locally available semi-submersible MODU in the offshore Victoria area. Transit time is improved for the local case when compared to the base and mid case. A suitable local rig would be the preferred option during a relief well operation but may not be selected for several reasons for example:

- Lack of appropriate MODU capabilities to drill and kill the well
- RTM favours selection of alternate MODU (Complex scope to suspend well and demobilise from local location, stacked or requirement for hull inspection prior to mobilisation)

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

- MODU unable to be released due to restrictions (such as well control event, equipment failure, weather, regulator enforcement etc.)
- No MODU available locally during activities.

The Victorian offshore oil and gas sector is serviced sporadically by semi-submersible MODUs with Title holders mobilising more frequently to NWS (Mid case) from Asia. Therefore should a relief well MODU be required it will likely be mobilised from either the NWS or Asia. Response Time Model (RTM) estimates have been developed and will continue to be reviewed and updated to reflect the most favourable case mobilisation of relief well MODU to the relief well location.

Relief Well RTMs

Cooper Energy RTM models contain the same activities and time for well construction, dynamic kill and abandonment of the well. The time model only changes due to mobilisation point of the MODU.

Cooper Energy has estimated the following timeframes for the total relief well installation and well kill scope (refer Table 8-7). The series of cases is used to help understand critical activities to undertaking the relief well scope. Cooper Energy has assessed and selected a number of measures to debottleneck source control contingencies (ALARP assessment below).

Table 8-7: Relief Well Installation Timeline

Response Time Model – Relief Well Drilling & Well Kill		Intl Case		Mid Case	Local Case
MODU Mobilisation Point		Asia - Singapore		Northwest Shelf	Victorian Waters
No.	Activity description	Estimated Days		Estimated Days	Estimated Days
Source Control Relief Well Activation Phase					
1	Activate Well Control Team, commence planning and notifications	2.0			
2	Select MODU, inspect and complete contracting work scope	3.0		6.0	6.0
3	Demobilise equipment from MODU	1.0			
4	MODU move preparations (includes anchor handling)	2.0			
MODU Transit Phase					
5	MODU mobilisation to relief well location	51		29	3
Well Construction, Ranging & Intercept, Well Kill Phase					
6	Run anchors and position MODU	2.0			
7	Mobilise equipment to rig	1.0			
8	Prepare to Spud	0.5			
9	Drill 26" x 42" Conductor Hole Section	0.8			
10	Run and cement 36" Conductor	1.5			
11	Directionally drill 17-1/2" Surface Hole Section	2.3			
12	Run and cement 13-3/8" Surface Casing	1.2			
13	Run and test BOP	2.2			
14	Directionally drill 12-1/4" Intermediate Hole Section	8.8			
15	Run and cement 9-5/8" Intermediate Casing	3.7			
16	Directionally drill 8-1/2" Reservoir Hole Section, ranging runs #1-4	15.4			
17	Pre-kill preparations	0.5			
18	Well kill operations, attempt #1	1.5			
19	Pre-kill preparation	0.5			
20	Well kill operations, attempt #2, flow stopped	1.5			
Time to Complete Well Kill (days – Drilling Only)		43.4			
Total Time to mobilise MODU and Kill Well		102.4		83.4	57.4
Relief Well Abandonment Phase					
21	Plug and abandon Well	4.5			
22	Pull BOPs	1.2			
23	Remove wellhead	0.8			
24	Retrieve anchors and release MODU	2.0			
Total Relief Well duration (days)		110.9		91.9	65.9

Regulatory Approval Timing Considerations

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Planning for relief well drilling will occur in parallel to other tertiary well control responses. A key component of the relief well drilling will be the preparation, submission, and approval of the regulatory documents. Generally, for well operations the regulatory and risk management processes fall on critical path hence in an emergency these documents will require a high level of focus immediately to ensure they are in place prior to arrival of the MODU.

The following documents will require consideration:

- Vessel Safety Case (VSC)
 - The selected MODU is expected to have a valid VSC, and it is not expected to affect response times.
- Scope of Validation (SoV)
 - Any proposed significant change to an offshore facility (i.e., MODU or Vessel) will require a SoV to be proposed to NOPSEMA and agreed prior to submission of a SCR. Depending on the level of changes the time to complete and gain approval could possibly affect the response time to have regulatory documentation in place prior to start of relief well operations.
- Safety Case Revision (SCR)
 - The SCR will require preparation, submission and approval prior to operations and is expected to be on critical path for relief well activities (Table 8-8).
- Well Operations Management Plan (WOMP)
 - The in force WOMP is expected to be suitable for relief well drilling and not expected to require a revision and resubmitted.
- Environmental Plan (EP)
 - The EP is designed to provide for source control response activities. Significant changes may require resubmission subject to initial change assessment, though is not expected to affect overall response time.
- Well Activity Notice (WAN)
 - WAN is not expected to affect response time.

As part of the preparation of the above documentation a number of formal safety assessments will be conducted as part of risk management these include:

- Hazard Identification (HAZID) workshop (identify risks, assesses hazards and mitigations to control works site hazards with aim to remove major accident events).
- Hazard Operations (HAZOP) workshop (risk assesses the operational sequence and place controls to reduce hazards to ALARP).
- Risk Assessments for safety critical equipment (Vessel Equipment, BOP, Mooring, Fluids Handling).

Table 8-8 Safety Case Revision Preparation and Approval Timeline

	Safety Case Revision Submission Key Steps (standard MODU)	Time Estimate (days)
1	Planning, regulatory consultation, HAZID/HAZOP Workshops, document preparation	2 weeks
2	Internal review cycle and submit	1 weeks
3	Priority Regulatory Assessment Period	1 week
	Total Time	4 weeks (28 days)

Response Agreements

Cooper Energy maintains contracts/agreements with specialist resources to supply well control expertise and support for drilling a relief well. This includes:

- Well engineering support services
- Technical writing and risk engineering services to support regulatory documentation workflows and submissions is provided by experienced specialists such as ADD Energy.

- Well control specialists with experience in relief wells and the coordination of well control activities such as Wild Well Control.
- Wellhead and casing materials supplier.
- Cooper Energy is party to the Industry Memorandum of Understanding to share drilling rigs, equipment and resources (well site services) in the event of an emergency. The MoU provides for the timely transfer of third-party contractual arrangements involved in the release of a MODU and well site services to the Titleholder for relief well drilling.
- Equipment and materials needed to construct a relief well will be able to be sourced either directly from suppliers or through the industry APPEA Mutual Aid MoU. The availability of equipment and materials are tracked through the “relief well readiness form” process (refer to OPEP - Source Control Resource Availability). All equipment and materials are expected to be sourced and transported to site during the SCR approval RTM, MODU transit and anchoring phase for the base and mid case response time model estimates. For the local MODU mobilisation case, an operational MODU would also have equipment and services, with additional equipment and services available via APPEA MoU.

MODU activity outlook and monitoring

Cooper Energy keeps a watching brief on vessel availability through industry forums and vessel broker updates and is also a participant of the Australian Drilling Industry Steering Committee (DISC). Through DISC, Cooper Energy receives regular updates on the location and operational status of MODU's operating in Australian waters, which could be made available for a source control response.

8.4.3 Source Control ALARP Evaluation

Source Control ALARP considerations are included in Table 8-9: Source Control ALARP Evaluation.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 8-9: Source Control ALARP Evaluation

Control Measures Considered	Related Risk Event	Benefit	Recognised Good Practice?	Sacrifice	Introduced Risks	Conclusion
Risk Avoidance						
Do not undertake activity	Moderate Risk Worst Case Loss of Containment	Deferral / avoidance of other (relatively minor impacts and risks associated with the activity)	No. As operator and Titleholder there is an obligation to develop resources within that Title in accordance with the Act and work programs.	Inspections of pre-existing subsea infrastructure within the region and any associated maintenance and/or repairs are not conducted.	Meeting east coast gas demand would require other means of gas supply and development elsewhere.	Reject Rationale: Cooper Energy has an obligation to safely developing and operate pre-existing gas developments in the region.
Response Preparedness						
Relief well MODU, services and equipment on standby in the region	As above	This option could remove a significant proportion of time associated with the RTM MODU activation phase and transit phase (between 9 and 47 days) depending on options available on the day. Time to drill a relief well remains > 40 days by which time the well flow is predicted to have peaked and shoreline contact occurred (noting intervention attempts to stop flow in the interim). Volume of oil ashore and risks would be reduced but would remain Moderate.	No. Not typical in the offshore industry in Australia. Typically operators will plan to source vessels as needed either vessel of opportunity or via MoU. Wells complexity assessment shows well can be drilled with typical MODU.	Estimated > \$1M/d for the duration of the activity which would be cost prohibitive. Significant increased operating burden.	Operational environmental impacts and risks and safety risks at standby location. Increase biosecurity risks having MODU on standby.	Reject Rationale: Any time saving with this option would not achieve source control before manual intervention prevent low initial WCD flow rate and any associated possible shoreline accumulation. The significant costs and planning burden are considered to be grossly disproportionate to the potential environmental risk reduction.
Pre-drill relief well top holes for the existing well sites.	As above	Estimated time saving of 2.3 days if section pre-drilled and conductor cemented. Unless combined with a MODU being on standby this option is not considered to provide significant benefit, noting time to	No. Not typical in the offshore industry in Australia.	Estimated at \$49MM to mobilise MODU and drill top hole for the 4 x well site locations. Plus \$5MM+ to cut and recover wellheads at the end of activity.	Increased SIMOPS Risk, Drilling risks. Operational Environmental Impacts	Reject Rationale: Any time saving with this option would not achieve source control before tapering of the low initial WCD flow rate and any associated possible

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		move the MODU and drill the remaining well would still exceed the peak well flow period. The is also a real risk that the top-hole location would no longer appropriate or safe depending on the scenario and conditions offshore.			Significant increased operating burden.		and Risks. Safety Risks.	shoreline accumulation. Costs are considered to be grossly disproportionate to the potential reduction in environmental risks.
Maintain complete inventory (all materials and consumables) to drill relief well.	As above	Ensures no equipment or consumables are critical path to drill a relief well. Unlikely to significantly reduce times unless combined with MODU being on standby, noting well site services and equipment are available through the APPEA MoU. Otway relief well can utilise standard equipment. Slight reduction in risk.	No. Not typical for individual operators to maintain their own inventory to drill a relief well unless undertaking well construction project where they may have spares available and/or complex wells.	Estimated at > \$10MM to purchase + \$0.75MM to store and maintain per annum. Significant increased operating burden.	Yard HSEQ risks. Consumable expiry / maintenance.	Reject Rationale: Any time saving with this option would not achieve source control before tapering of the low initial WCD flow rate and any associated possible shoreline accumulation. Costs are considered to be grossly disproportionate to the potential reduction in environmental risks.		
Long leads: Purchase and maintain inventory of casing to drill relief well.	As above	Ensures these long leads are not critical path to drill a relief well. Unlikely to significantly reduce times unless combined with MODU being on standby, noting well site services and equipment are available through the APPEA MoU. Otway relief well can utilise standard equipment. Slight reduction in risk.	No. Not typical for individual operators to maintain their own inventory to drill a relief well unless undertaking well construction project where they may have spares available and/or complex wells.	Estimated at > \$5MM to purchase + \$0.5MM to store and maintain per year. Significant increased operating burden.	Yard HSEQ risks.	Reject Rationale: Any time saving with this option would not achieve source control before tapering of the low initial WCD flow rate and any associated possible shoreline accumulation. Costs are considered to be grossly disproportionate to the potential reduction in environmental risks.		
Long leads: Purchase and maintain wellhead and conductor.	As above	Ensures these long leads are not critical path to drill a relief well. Unlikely to significantly reduce times unless combined with MODU being on standby, noting well site services and equipment are available through the APPEA MoU. Otway relief well can utilise	No. Not typical for individual operators to maintain their own inventory to drill a relief well unless undertaking well construction project where they may have spares available and/or complex wells.	Estimated at >\$2MM to purchase, + 0.1MM to store and maintain per year. Significant increased operating burden.	Yard HSEQ risks.	Reject Rationale: Any time saving with this option would not achieve source control before tapering of the low initial WCD flow rate and any associated possible shoreline accumulation. Costs are considered to be grossly		

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Industry MoU for Mutual Aid for offshore incident.	As above	standard equipment. Slight reduction in risk. This could provide quickest access to a relief well MODU. Time to make well safe may add approx. 3-days to overall activation timeframe before transit phase. Time to drill a relief well remains > 40 days by which time the well flow is predicted to have peaked and shoreline contact occurred. Risks remain Moderate.	Yes. Industry initiative commonly adopted. Likely to provide the quickest possible timeframe to implement source control response. MoU for Mutual Aid: "To Facilitate the Release and Transfer of Drilling Units and Well-Site Services between Operators in Australian and Timor-Leste-administered Waters in preparedness for an offshore incident". This includes: a) Drilling Unit; and/or b) to the extent suitable for use in connection with the Offshore Incident, third party contractor personnel, equipment, materials, consumables and other well-site services (including, but not limited to, logistical support, cementing, well intervention and vessel support used in connection with such Drilling Units (collectively, "Well-Site Services").	Costs upon activation. In accepting a MODU from another operator the recipient is liable for the costs incurred by that operator, which are difficult to quantify but could be significant, nominally \$50M to re-instate their drilling campaign.	No introduced risks	disproportionate to the potential reduction in environmental risks. Implement Rationale: likely to provide the quickest means to drill relief well. Though relief well drilling does not reduce risks below the moderate level, a relief well would reduce overall volumes released and eliminate any legacy issues (e.g., due to recharge). Costs upon activation are not grossly disproportionate to the environmental risk reduction. Integrated via: OPEP C8 SCR Equipment
Monitoring of drilling inventories available including through APPEA MoU for the purposes of drilling relief well.	As above	Verification of available inventory which can be reflected in RTMs to identify and address potential bottlenecks. Slight reduction in risk.	Yes, good practice to verify and to reflect in RTMs.	Administrative effort only	No additional risk	Implement Rationale: identifies potential bottlenecks to relief well drilling prior to and during drilling to then consider alternate arrangements. Though relief well drilling does not reduce risks below the

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

						moderate level, a relief well would reduce overall volumes released. Costs of this option are not grossly disproportionate to the environmental risk reduction. Integrated via: OPEP C8 SCR Equipment OPEP C9 SCR Resources Monitoring
				Yes. Industry initiative commonly adopted.	Minor administrative costs.	No additional risk Implement Rationale: maintains awareness of vessels and MODU's capable of supporting a source control response providing a small reduction in overall response times. Costs are not grossly disproportionate to the environmental risk reduction. Integrated via: OPEP C9 SCR Resources Monitoring
				Yes. Required. APPEA DISC provides content guidelines.	Estimated \$100K	No additional risk Implement Rationale: Enables source control strategies to be clearly communicated and expedited. Costs are not grossly disproportionate to the environmental risk reduction. Integrated via: OPEP C6 SCERP
				Yes	Estimated \$100K	No additional risk Implement Rationale: Enables source control strategies to be clearly communicated and expedited. Costs are not grossly
MODU / Vessel contract tracking and forecasting 6-monthly (during operations) MODU / vessel updates and/or participation with DISC.	As above	Save approximately 1-2 days in identifying suitable/ready MODUs and vessels. Slight reduction in risk.	Yes. Industry initiative commonly adopted.	Minor administrative costs.		
Source Control Contingency Response Plan developed, tested and utilised in the event of a source control incident.	As above	Clear response plans, allowing basis for managing the source control response to best case timeframes on the day. Risks reduced but remain Moderate.	Yes. Required. APPEA DISC provides content guidelines.	Estimated \$100K		
WOMP accepted which provides for source control activities.	As above	Saves time and personnel resources during a response. Slight reduction in risk.	Yes	Estimated \$100K		

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

							disproportionate to the environmental risk reduction. Integrated via: OPEP C6 SCERP
Cooper Energy to maintain contracts or prequalification's with well control specialists.	As above	This could save days required to contract required resources. Risks reduced but remain Moderate.	Yes. All operators rely on contractors for ramp-up support.	Estimated \$100K	No additional risk	Implement Rationale: Enables source control strategies to be expedited. Costs are not grossly disproportionate to the environmental risk reduction. Integrated via: OPEP C7 SCER Personnel	
Pre-identify a quadrant for suitable relief well locations.	As above	Assists in making decision on the area for optimal location for relief well based on weather conditions and subsea hazards. Risks reduced but remain Moderate.	Yes	As part of nominal relief well plans.	No additional risk	Implement Rationale: Enables source control strategies to be expedited. Costs are largely accounted for through existing project planning work and are not grossly disproportionate to the environmental risk reduction. Integrated via: OPEP C6 SCERP	
Pre lay of relief well MODU moorings.	As above	May save 2-3 days, only if laid in correct locations. Locations may change at the time depending on scenario and offshore conditions. Risks reduced but remain Moderate.	Not typical for solely for relief well purposes.	Estimated > \$10MM for coverage of all 4a well centres.	Additional impacts to seabed. Additional Risk to other sea users if RW outside existing PSZs (fisheries snag risk)	Reject Rationale: Any time saving with this option would not achieve source control before tapering of the low initial WCD flow rate and associated shoreline accumulation. Significant additional costs and project planning capacity are considered to be grossly disproportionate to the potential environmental risk reduction.	
Pre-accepted safety case revision for	As above	Time saving and may assist in developing relationship with	No, no known examples of an accepted SCR specifically	Estimated \$500K + Regulator Levies. Significant increased	Risk of obscuring / overlooking optimal relief	Reject	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

possible relief well MODUs and source control vessels.		MODU operator. Multiple variables mean a particular MODU may not be available on the day, hence SCR of no benefit but significant effort and cost. MODU's / vessels for which safety cases were developed may not be available at the time, hence industry has utilised the MoU model which generally allows access to a range of MODUs and well site services. No risk reduction afforded.	for a relief well MODU and vessels.	administrative burden.	well MODU and source control vessels available at the time.	Rationale: Any time saving with this option would not achieve source control before tapering of the low initial WCD flow rate and any associated possible shoreline accumulation. MODUs and response vessel availability will change with time; facilities may be unavailable or may not be the most expedient option to support a response at the time one may be needed. There is a significant risk of wasted planning effort where directed at a single facility. There is also a risk of obscuring optimal (most expedient) options to drill a relief well where plans become tailored to a particular option. Costs are considered to be grossly disproportionate to the potential reduction in environmental risks.
Prepare outline safety case revision for MoU for the relief well MODU.	As above	Unlikely to accelerate SCR times significantly noting that relief well MODU selection is uncertain until the time of the event. There are pre-existing safety cases which provide a basis for format. Major part of development of SCR is workforce engagement with the service partners for the scope, which is based on the MODU selected at the time. No risk reduction afforded.	Not typical but at least one example of this recently.	Estimated \$100K. Significant increased administrative burden.	No additional risk	Reject Rationale: Any time saving with this option would not achieve source control before tapering of the low initial WCD flow rate and any associated possible shoreline accumulation. MODUs and response vessel availability will change with time; facilities may be unavailable or may not be the most expedient option to support a response at the time one may be needed. There is a significant risk of wasted planning effort where



COOPER
ENERGY

8.4.4 Source Control Environmental Impact and Risk Assessment

For vessel-based source control options (i.e., vessel source control strategies, ROV inspection and intervention), the impacts and risks associated with those activities relate to:

- Vessel discharges and emissions (sound, air emissions, bilge, etc.).
- Vessel risks (discharges of deck drainage, IMS introduction, megafauna strikes, equipment loss to the environment, etc.); and
- Seabed disturbance.

As such no additional evaluation is required.

8.4.4.1 Cause of Aspect

For MODU-based source control options (e.g., relief well drilling) the following activities may interfere with marine fauna:

- Site surveying
- MODU operations
- MODU positioning
- Drilling operations
- Operational discharges

Aspect characterisation

In the unlikely event that a subsea LOC incident occurs, and a relief well is required, the potential impacts are anticipated to be similar to standard drilling operations. The area of impact varies depending on the aspect, with majority restricted within the Operational Area (<2 km) around the relief well.

8.4.4.2 Predicted Environmental Impacts and Risks:

The potential aspects of MODU-based activities (for a relief well) are:

- Physical presence
- Seabed disturbance
- Operational discharges:
- Drill cuttings and fluids
- Cement
 - Change in ambient sound
 - Light emissions
 - Atmospheric and GHG emissions

Physical presence

Impact Event: Physical presence

Inherent Consequence Evaluation

The physical presence of the offshore infrastructure and vessels can result in changes to the functions, interests and activities of other marine users. An exclusion zone would be required around the MODU, which has potential to impact fisheries and shipping activities. The exclusion zone is anticipated to be close to the existing operational area, therefore will only add a small additional area of exclusion. Therefore, the physical presence is unlikely to have significant impact on shipping and industry activities.

The potential risks and impacts from the physical presence of the MODU-based source control options (changes to the functions, interests and activities of other marine users) relate to:

- Vessel operations (assessed in Section 6.2.1).

As such no additional consequence evaluation is required. Control measures discussed in Table 6-2 would be implemented and are sufficient to reduce risks to ALARP and acceptable.

Seabed disturbance

Impact: Change in habitat

Inherent Consequence Evaluation

Seabed disturbance is anticipated to occur during:

- MODU positioning: Mooring will require between 8 and 12 anchors (dependent on mooring analysis) ranging from 15 to 30 MT each, with an individual footprint of between 30 m² and 60 m² at each well location. Total footprint estimate: 760 m².
- Relief well drilling and cementing: seabed deposition of drilling cutting within 1.24 km of the well (RPS, 2019b) and seabed cement job excess within 10-50 m of the well.
- Installation of subsea equipment: Direct footprint <25 m²

The installation of infrastructure will potentially result in suspension of sediments, and redeposition that could cause impact on benthic and demersal invertebrate communities. Rock cuttings from drilling will add to the unconsolidated substrates and will redistribute over time influenced by the surrounding morphology, currents, prevailing weather and would not be expected to significantly alter the overall character of the seabed.

Despite seabed disturbance pathway during MODU-based source control options differ to vessel-based operations, the potential risk and impacts (change in benthic habitat and change in water quality) relate to:

- Vessel operations (IMR operations) (assessed in Section 6.3).

As such no additional consequence evaluation is required.

Operational discharges – drill cuttings and fluids

MODU-based operations involved in relief well source control options will result in operational discharges (drill cuttings and fluids). Potential impacts from these operational discharges are:

- Change in sediment quality
- Change in water quality

Potential risks from a change in sediment and water quality are:

- Injury / mortality

Impact: Change in sediment and water quality

Inherent Consequence Evaluation

Drilling discharges include seabed discharges of drill cuttings and fluids. Based on previous analysis of operational discharges for Otway Offshore Operations, Cooper Energy estimate that approximately 150 m³ of cuttings and 1,500 m³ of water-based drilling fluids could be discharged at the seabed during top-hole sections for the relief well. At the surface, 180 m³ of drill cuttings and 2,000 m³ of associated drill fluids may be discharged.

Discharge of cuttings and adhered fluids from the surface will occur intermittently during relief well drilling (typical discharges in batches of between 10-100 m³). Residual barite and bentonite may also be discharged at the end of drilling as a slurry. The intermittent nature of the discharges greatly reduces the extent of a change in water quality (Neff, 2005).

Hinwood et al. (1994) and Neff (2005) note that within 100 m of the discharge point, a drilling cuttings and fluid plume released at the surface will have diluted by a factor of at least 10,000, while Neff (2005) states that in well-mixed oceans waters (as is likely to be the case within the drilling area), drilling mud is diluted by more than 100-fold within 10 m of the discharge. As such discernible increases in turbidity from drill cutting discharges during riserless drilling (i.e., direct discharge to the seabed) are expected to be short-lived, highly localised and limited to within a close proximity of the source. Discharges from the surface are anticipated to

impact a larger area than subsea discharges, with drilling cuttings and adhered fluids expected to disperse rapidly within the offshore marine environment, resulting in a relatively small footprint of water quality change. Although the volume of drilling cuttings discharge associated with drilling a well is large, the environmental impacts within the water column are low due to the intermittent nature of such discharges Neff (2005). Hinwood et al. (1994) explain that the main environmental disturbance from discharging drilling cuttings and fluids is associated with the smothering and burial of sessile benthic and epibenthic fauna.

An impact threshold from cuttings deposition of 3-24 mm was derived by Trannum et al. (2009 cited in RPS, 2019b). The threshold was based on a decrease in species count, abundance of individuals, and biomass of marine animals observed as a result of smothering and burial of benthic fauna.

Drilling cuttings and fluids discharged during relief well drilling operations are expected to result in a change in sediment quality. Cuttings tend to clump together and settle rapidly, with thicker cuttings piles generally located downstream from the discharge. The deposition of sediments is anticipated to be highly localised around the well site (Neff 2005). In 2016 the International Association of Oil and Gas Producers (IOGP) summarised field, laboratory and modelling studies relating to cuttings discharges. Seafloor discharge of cuttings and adhered water-based mud (WBM) was shown to occur within 10–150 m of the discharge source; whereas cuttings discharged near the surface were shown to accumulate on the seafloor at distances of ~0.1–1 km depending on water depth (IOGP 2016). Such surface discharges undergo higher levels of dispersion of smaller cuttings within the water column resulting in a thinner layer in proximity to the well site. The field studies also demonstrated there may be no detectable traces in sediment at any distance from the well within waters greater than 300 m (IOGP 2016) for WBM discharges from a single well. The water-based fluid and cuttings discharge field studies encompassed by this report occurred in water depths from 32 to 600 m including outcomes representative of far greater water depths with a higher spread of discharges associated. Therefore, a 1 km exposure area is considered conservative and is well within the 2 km radius that comprises the Operational Area around the well during drilling and provides a conservative analogue for the Otway Offshore Operations.

Benthic fauna within the operational area is expected to be limited to patchy epifauna as found in recent surveys of the operational area (Fugro, 2020). The epifauna, including sponges, bryozoans and hydroids, though patchy in their distribution, were observed on both hard and unconsolidated substrates. Rock cuttings from drilling will add to the unconsolidated substrates and will redistribute over time influenced by the surrounding morphology, currents, prevailing weather and would not be expected to Planned drilling discharges include seabed discharges of drill cuttings and fluids. Approximately 150 m³ of cuttings and 1,500 m³ of water-based drilling fluids will be discharged at the seabed during top-hole sections for each well.

A water-based drilling mud (WBM) will likely be the primary choice of drill fluid; the Cooper Energy Offshore Chemical Assessment Procedure, conducted for previous activities, provides the framework and triggers for the preferential selection of lower toxicity WBMs over synthetic fluids. The process also provides for the preferential selection of specific grades of chemical, being OCNS CHARM rating of GOLD or SILVER, a non-CHARM “E” or “D” classification or PLONOR. Where this is not achievable, further assessment, justification and investigation of alternatives is required to be undertaken.

Based on the low overall ecotoxicity associated with water-based fluids; no effect concentrations would not be expected to be exceeded beyond the near vicinity of the well and would only be apparent for short durations (Neff, 2010).

Water and sediment quality within the relief well Operational Area is expected to be representative of the expected quality found in Otway Basin waters. Given smothering impacts are limited to the near vicinity of the existing operational area, the high energy marine environment, and change in water quality will be localised and temporary, the impacts from planned drill cuttings and fluid discharges from the seabed will be **Level 2**.

Risk Event: Injury/mortality (Plankton and Fish)

Inherent Consequence Evaluation

A riser and BOP will enable cuttings and fluids from deeper well sections to be brought back to the MODU if required during the relief well operation. Solids control equipment will remove solids from drilling fluids, these will then be discharged from the surface. Based on previous analysis, Cooper Energy estimate that approximately 180 m³ of cuttings and 2,000 m³ of drilling fluids will likely be discharged at the surface for the relief well drilling.

Receptors with the potential to be exposed and most at risk of impact to an increase in turbidity levels from the surface discharge of drill cuttings and fluids include pelagic fish and plankton in vicinity of the well.

Jenkins and McKinnon (2006) reported that levels of suspended sediments greater than 500 mg/L are likely to produce a measurable impact upon larvae of most fish species, and that levels of 100 mg/L will affect the larvae of some species if exposed for periods greater than 96 hours. Jenkins and McKinnon (2006) also indicated that levels of 100 mg/L may affect the larvae of several marine invertebrate species and that fish eggs and larvae are more vulnerable to suspended sediments than older life stages.

RPS-APASA (2014) predicted the in-water extent of total suspended sediments by modelling drilling discharge for a well in the North West Shelf of Western Australia. The model predicted the extent of total suspended sediment concentrations at 2-3 mg/L at a distance of 225 m from the well. Using a highly conservative buffer of 225 m, fish larvae within this localised area may be vulnerable to impacts from an increase in total suspended sediments if exposed over 96 hours.

High energy oceanographic processes at the well locations will result in rapid dispersion of total suspended sediments from surface discharge of drill cuttings and fluids (Cwth waters). Rapid dispersion of total suspended sediments and the transient nature of fish larvae reduces the likelihood of 96-hour exposure of fish larvae to drill cuttings and fluids which is required to illicit potential injury or mortality.

Rapid dilution and dispersion of surface discharges of drill cuttings and fluids from high energy oceanographic processes eliminates the potential for toxic effects to fish larvae. Fish larvae are likely to be transient, exposure to total suspended sediments will be short term, localised and the risk of injury or mortality **low**.

Inherent Likelihood

Given the low likelihood of a subsea loss of containment occurring, the source control activities subsequently have a low probability of occurring, this consequence is considered to have a Hypothetical likelihood of occurring.

Inherent Risk Severity

The inherent risk severity for this event is ranked as **Low**.

Control Measures

The following control measures would be implemented and are sufficient to reduce risks to ALARP and acceptable.

- CM11: Cooper Energy Offshore Chemical Assessment Procedure
- CM10: Planned Maintenance System

EPOs, EPS and measurement criteria are provided in Section 9

Operational discharges – cement

MODU-based operations involved in relief well source control options will result in operational discharges (cement). Potential impacts from operational discharges are:

- Change in water quality
- Change in habitat

Potential risks from a change in water quality from operational discharges are

- Injury/Mortality

Impact: Change in water quality

Inherent Consequence Evaluation

Cement will be discharged during relief well drilling activities (Cwth waters). Based on previous analysis, Cooper Energy estimate that the cement job excess, which is pumped to the seabed is likely to be 50 m³.

A discharged batch of cement slurry may be up to 40 m³, with occasional smaller batches during cleaning (< 1 m³ per job). This will be discharged at the surface. The cement particles will disperse under action of

waves and currents, and eventually settle out of the water column; the initial discharge will generate a downwards plume, increasing the initial mixing of receiving waters.

Previous modelling of surface cement discharges (approximately 78 m³ over a one-hour period) (BP 2013) showed that within two hours suspended solid concentrations ranged between 0.005-0.05 mg/m³ within the extent of the plume (approximately 150 m horizontal and 10 m vertical); and by four hours post-discharge, that concentrations were <0.005 mg/m³. These volumes are greater than the expected cement wash volumes during drilling, and results are considered conservative.

Mixed cement discharged at the seabed during displacement will contain chemical additives. Terrens et. al (1998) suggests that once cement has hardened the chemical constituents are locked into the hardened cement. As such the extent of the impact is limited to the subsurface waters directly adjacent to the displaced subsea cement (expected to be in the order of 10-50 m of each well) and pelagic waters within 150 m of each well following the surface discharge of cement slurry from washing the cement unit.

Water quality within the operational area is expected to be representative of the expected quality found in the Otway Basin waters. Given that exposure to in water concentrations are expected to be limited due to the rapid dispersion and dilution (BP, 2013), changes to water quality will be localised and temporary and are assessed as **Level 1**.

Impact: Change in habitat

Inherent Consequence Evaluation

Cement job excess, which is pumped to the seabed is expected to be 50 m³.

Cement overspill on the seabed will change seabed habitat within 10-50 m of each well. Benthic environments in the operational area includes hard calcarenite of varying relief and some areas of unconsolidated sediment. Habitat nearby the operational area has been shown to include patchy epifauna representative, which is representative of the region (Table 4-3, Fugro 2020). Cement overspill would not be expected to significantly alter the overall character of the seabed, or its ecological amenity. Impacts to epifauna would be localised and recoverable, with no threat to EPBC Act listed threatened benthic fauna.

Benthic habitats within the operational area are represented throughout the SE marine region. Any impacts will be highly localised, are expected to be recoverable, and will not affect the long-term success of the ecosystem and are assessed as a **Level 1**.

Risk Event: Injury / Mortality

Inherent Consequence Evaluation

A surface discharge of cement slurry may be up to 40 m³, with occasional smaller batches during cleaning (< 1 m³ per job in Cwth waters). Surface cement slurry discharges is expected to result in a temporary suspended solid plume (approximately 150 m horizontal and 10 m vertical) with cement concentrations ranged between 0.005 - 0.05 mg/m³ within the extent of the plume.

Jenkins and McKinnon (2006) reported that levels of suspended sediments greater than 500 mg/L are likely to produce a measurable impact upon larvae of most fish species, and that levels of 100 mg/L will affect the larvae of some species if exposed for periods greater than 96 hours. Jenkins and McKinnon (2006) also indicated that levels of 100 mg/L may affect the larvae of several marine invertebrate species and that fish eggs and larvae are more vulnerable to suspended sediments than older life stages.

Neither the modelling by de Campos *et al.* (2017) or BP (2013) suggest that suspended solids concentrations from a discharge of the cement washing will be at or near levels required to cause an effect on fish or invertebrate larvae, i.e., predicted levels were well below a 96-hr exposure at 100 mg/L, or instantaneous 500 mg/L exposure.

Planktonic communities within the operational area will be typical of the offshore marine environment in the region. Given the high energy marine environment and naturally high mortality of plankton, any impacts will be localised and temporary and have been assessed as **Level 1**.

Inherent Likelihood

Given the low likelihood of a subsea loss of containment occurring, the source control activities subsequently have a low probability of occurring, this consequence is considered to have a Hypothetical likelihood of occurring.

Inherent Risk Severity

The inherent risk severity for this event is ranked as **Low**.

Control Measures

Control measures discussed in Table 6-2 would be implemented and are sufficient to reduce risks to ALARP and acceptable.

Underwater sound emissions

Impact Event: Change in ambient sound

Inherent Consequence Evaluation

MODU-based operations involved in relief well source control options will result in a change in underwater ambient sound. The noise criteria distance thresholds anticipated during MODU-based operations (i.e., mooring and drilling operations) will differ to vessel-based operations, however, the associated impacts and risks (behavioural changes to marine fauna, auditory impairment (masking, TTS, recoverable injury), or auditory injuries (mortality or potential mortal injuries, PTS) to marine fauna) relate to:

- Vessel discharges and emissions (sound emissions) (assessed in Section 6.5).

Furthermore, underwater sound emissions produced during MODU-based source control options will comply with the Whale Disturbance Risk Management Procedure for the activity (Table 6-20); thus, control measures will be implemented to prevent behavioural changes, auditory impairment, or auditory injury impacts and ensure activities are consistent with the both the southern right whale RP and blue whale CMP.

As such no additional consequence evaluation is required. Control measures discussed in Section 6.5 would be implemented and are sufficient to reduce risks to ALARP and acceptable.

Light emissions

Impact: Change in ambient light

Inherent Consequence Evaluation

MODU-based operations involved in relief well source control options will result in light emissions (navigational lighting, MODU lighting). The light emissions anticipated for MODU-based operations will differ to vessel-based operations, however, the associated impacts and risks (change in ambient light, change in fauna behaviour (attraction, disorientation)) relate to:

- Vessel operations (light emissions) (assessed in Section 6.2.1).

As such no additional consequence evaluation is required. Control measures discussed in Table 6-2 would be implemented and are sufficient to reduce risks to ALARP and acceptable.

Introduction, Establishment and Spread of IMS

Risk Event: Displacement or reduction in native marine species diversity and abundance causing changes to conservation values of protected areas.

Inherent Consequence Evaluation

MODU-based operations involved in relief well source control options may result in the introduction, establishment and spread of invasive marine species (IMS). The associated risks and impacts of the introduction, establishment and spread of IMS during MODU-based operations relates to:

- Vessel operations (see Section 6.6).

As such no additional consequence evaluation is required. Control measures discussed in Table 6-3 would be implemented and are sufficient to reduce risks to ALARP and acceptable.

Atmospheric and GHG emissions

Impact: Atmospheric and GHG emissions

Inherent Consequence Evaluation

MODU-based operations involved in relief well source control options will result in atmospheric and GHG emissions through the production, processing, transmission and end use of the hydrocarbons. GHG's are emitted to the atmosphere when hydrocarbons are burned, flared, vented or released as fugitive emissions.

The source of atmospheric and GHG emissions during MODU-based operations (i.e., from flaring or burning) differ to vessel-based operations, however, the associated impacts and risks (i.e., change in air quality and an increase in greenhouse gas emissions) relate to:

- Vessel discharges and emissions (air emissions) (see Section 6.2.1 and Section 6.4).

As such no additional consequence evaluation is required. Control measures discussed in Table 6-2 and Section 6.4 would be implemented and are sufficient to reduce risks to ALARP and acceptable.

The environmental performance outcomes, standards and measurement criteria for response preparedness and implementation of source control activities are described in the OPEP.

8.4.5 Control Measures, ALARP and Risk Assessments

Table 8-10 provides a summary of the EIA / ERA for source control activities

Table 8-10: Source Control Activities EIA / ERA

ALARP Decision Context and Justification	ALARP Decision Context A The use of MODUs and vessels in the offshore area is well practiced with the potential impacts and risks from these activities well understood. There is a good understanding of control measures used to manage risks from MODU and vessel activities. There is slight uncertainty associated with the potential environmental impacts and risks, which have been evaluated as Level 2 due to the localised area of disturbance and short-term impacts. No objections or concerns were raised during stakeholder consultation regarding analogous planned activities or their potential impacts and risks. As such, Cooper Energy believes ALARP Decision Context A should apply.
Control Measure	Source of good practice control measures
Relief well	Relief well installation will be completed by implementing suitable options with the shortest response time, facilitated by the frequent review and update of the SCREP Prior to start there will be an environmental risk review for the relief well drilling program
Chemical selection process	Planned chemical discharges will be assessed and deemed acceptable before use, in accordance with Cooper Energy's Offshore Environment Chemical Assessment Process
Maintain capability to implement the Source Control Emergency Response	Cooper Energy will maintain the required level of response capability to implement a source control strategy commensurate with the spill scenarios detailed in this EP.
Impact and Risk Summary	
Residual Impact Consequence	N/A
Residual Risk Consequence	Level 2 - Localized short-term impacts to species or habitats of recognized conservation value not affecting local ecosystem function; remedial/recovery work to land, or water systems over days/weeks.
Residual Risk Likelihood	The likelihood of a worst-case scenario spill was determined to be Unlikely (D). As such, the likelihood of impacts from shoreline assessment and clean-up activities have been determined to be Remote (E) .

Residual Risk Severity	Low
Demonstration of Acceptability	
Principles of ESD	The potential impact associated with this aspect is limited to a localised medium-term impact, which is not considered as having the potential to affect biological diversity and ecological integrity. The activities were evaluated as having the potential to result in a Level 2 consequence thus is not considered as having the potential to result in serious or irreversible environmental damage. Consequently, no further evaluation against the principles of ESD is required.
Legislative and other requirements	Legislation and other requirements considered as relevant control measures include: • OPGGS Act 2006 (Commonwealth) • OPGGS Act 2010 (Victoria)
Internal context	Relevant management system processes adopted to implement and manage hazards to ALARP include: • Risk Management (MS03) • Technical Management (MS08) • Health Safety and Environment Management (MS09) • Incident and Crisis Management (MS10) • Supply Chain and Procurement Management (MS11) • External Affairs & Stakeholder Management (MS05)
External context	No stakeholder concerns have been raised to date regarding impacts and risks from source control activities. As such, Cooper Energy considers that there is broad acceptance of the impacts associated with the activity.
Environmental Performance	
The environmental performance outcomes, standards and measurement criteria for response preparedness and implementation of source control activities are shown in the OPEP.	

8.5 SPILL RESPONSE: Monitor and Evaluate

8.5.1 Overview

Ongoing monitoring and evaluation of the oil spill is a key strategy and critical for maintaining situational awareness and to complement and support the success of other response activities. In some situations, monitoring and evaluation may be the primary response strategy where the spill volume/risk reduction through dispersion and weathering processes is considered the most appropriate response. Monitor and evaluate will apply to all marine spills. Higher levels of surveillance such as vessel/aerial surveillance, oil spill trajectory modelling and deployment of satellite tracking drifter buoys will only be undertaken for Level 2/3 spills given the nature and scale of the spill risk.

It is the responsibility of the Control Agency to undertake operational monitoring during the spill event to inform the operational response. Operational monitoring includes the following:

- Aerial observation.
- Vessel-based observation.
- Computer-based tools:
 - Oil spill trajectory modelling.
 - Vector analysis (manual calculation); and
 - Automated Data Inquiry for Oil Spills (ADIOS) (a spill weathering model).
- Utilisation of satellite tracking drifter buoys for vessel-based IMR campaigns.

For vessel-based spills (unless classified as a facility under the OPGGS Act), the responsibility for operational monitoring lies with AMSA (Commonwealth waters) and Vic DTP (Victorian waters).

8.5.2 Resources Required and Availability

The OPEP details the resources required to undertake monitor and evaluate activities, their availability and hence Cooper Energy's capability to support a 'monitor and evaluate' response. The feasibility/effectiveness of a monitor and evaluate response is provided in Table 8-11.

Table 8-11: Feasibility / Effectiveness of Proposed Monitor and Evaluate Response

Parameter	Monitor and Evaluate
Suitability/Functionality Feasibility <i>How does the response strategy perform to achieve its required risk reduction?</i>	Implementation of monitoring is fundamental in informing all of the remaining response strategies. The response activity validates trajectory and weathering models providing forecasts of spill trajectory, determines the behaviour of the oil in the marine environment, determines the location and state of the slick, determines the effectiveness of the response options and confirms the impact on receptors. Monitoring and evaluation activities will continue throughout the response until the termination criteria have been met.
Dependencies Effectiveness <i>Does the response strategy rely on other systems to perform its intended function?</i>	The successful execution of monitoring relies on of the pre-planning of monitoring assets being completed to enable the shortest mobilization time of personnel, and equipment required for gaining situational awareness. To ensure the IMT can maintain the most accurate operating picture the monitoring data collected in the field will be delivered to the IMT as soon as possible.
Availability and Timely <i>Time the response strategy is available to perform its function?</i>	Time to be operational - Monitoring from aerial platforms will only operate in daylight hours; all other options are capable of 24-hour operations. Access to ADIOS is available within 1 hour of the establishment of the IMT with initial results available within 1 hour of accessing the system. Initial external modelling results are available 2 hours after initial request. Personnel downtime will be planned and managed to ensure appropriate levels of response personnel are maintained and rotated as required or until the response is terminated.

Cooper Energy maintains operational monitoring capability and implements operational monitoring for Level 2 or 3 infrastructure-based incidents and this response capability would be available to assist the Control Agencies in an MDO spill if requested. Cooper Energy would initiate Type II (scientific) monitoring in the event of any Level 2 or 3 spill.

Through this resourcing Cooper Energy is capable of:

- Acquiring knowledge of the spill conditions from any vessel-based MDO spill via deployed tracking buoys and undertaking manual trajectory calculations within 1 hour of EMT mobilisation;
- Activating and obtaining modelling forecast within 4 hours of spill.
- Deploying vessels of opportunity as soon as possible and aircraft within 24 hours to verify modelling/vector calculation forecast and provide real-time feedback of impacts/predicted impacts.

8.5.3 Monitor and Evaluate ALARP Evaluation

Cooper Energy considers that during a 'worst-case' spill event (Level 2 MDO LOC or Level 1/2 Condensate LOC), there are sufficient monitoring resources to respond in sufficient time to allow Cooper Energy to understand if protection priorities are threatened by spill residue (i.e., via satellite tracking buoy deployment; manual and computerised trajectory calculation and via aerial observation). On the basis of this availability, Cooper Energy considers that there are no other practicable controls, appropriate to the nature and scale of the oil spill risk, which could be implemented to affect more timely situational awareness and subsequent response activities. Resourcing and equipment details are provided in the OPEP.

8.5.4 Monitor and Evaluate 'Activity' Impact / Risk Evaluation

Cause of the Aspect:

The following hazards associated with operational monitoring have the potential to interfere with marine fauna:

- Additional vessel activity (over a greater area); and
- Aircraft use for aerial surveillance (fixed wing or helicopter).

Aspect Characterisation

The cause of these aspects is not considered to be any different to those planned under this EP (i.e., aircraft and vessel use). Consequently, no further aspect characterisation has occurred.

Impact or Risk:

The known and potential impacts of vessel and aircraft noise in the environment are:

- Potential behavioural impacts/damage to whale and pinniped species.
- Disruption to shoreline bird species.

Consequence Evaluation:

The potential impacts associated with aircraft and vessel activities have been evaluated in this EP (planned activities). Based upon the nature and scale of the activities, the evaluation is considered appropriate for any aerial or marine surveillance undertaken and thus has not been considered further.

8.5.5 Control Measures, ALARP and Risk Assessment

Table 8-12 provides a summary of the EIA / ERA for monitoring and evaluation activities.

Table 8-12: Monitoring and Evaluation Activities EIA / ERA

ALARP Decision Context and Justification	ALARP Decision Context A The use of aircraft in offshore area is well practiced with the potential impacts and risks from these activities well understood. There is a good understanding of control measures used to manage these risks from aircraft. There is little uncertainty associated with the potential environmental impacts and risks, which have been evaluated as Level 1. No objections or concerns were raised during stakeholder consultation regarding analogous planned activities or their potential impacts and risks. As such, Cooper Energy believes ALARP Decision Context A should apply.
Control Measure	Source of good practice control measures
Consultation	Consultation in the event of a spill will ensure that relevant government agencies support the monitor and evaluate strategy thus minimising potential impacts and risks to sensitivities.
Maintain monitoring and evaluation capability	Cooper Energy will maintain the required level of response capability to implement a monitoring and evaluation strategy commensurate with the spill events detailed in this EP.
Likelihood	The likelihood of a worst-case scenario spill was determined to be Unlikely (D). As such, the likelihood of impacts from underwater noise in the event of a response have been determined to be Remote (E) .
Residual Impact Consequence	N/A
Residual Risk Consequence	N/A (Refer to relevant aspects in Section 6)
Residual Risk Likelihood	N/A (Refer to relevant aspects in Section 6)

Residual Risk Severity	N/A (Refer to relevant aspects in Section 6)
Demonstration of Acceptability	
Principles of ESD	The potential impact associated with this aspect are limited to standard aerial and vessel activities, which is not considered as having the potential to affect biological diversity and ecological integrity. The activities do not have the potential to result in serious or irreversible environmental damage. Consequently, no further evaluation against the principles of ESD is required.
Legislative and other requirements	Legislation and other requirements considered as relevant control measures include: - OPGGS Act 2006 (Commonwealth) - OPGGS Act 2010 (Victoria)
Internal context	Relevant management system processes adopted to implement and manage hazards to ALARP include: - Risk Management (MS03) - Technical Management (MS08) - Health Safety and Environment Management (MS09) - Incident and Crisis Management (MS10) - Supply Chain and Procurement Management (MS11) - External Affairs & Stakeholder Management (MS05)
External context	No stakeholder concerns have been raised to date regarding impacts and risks from protect and deflect strategies. As such, Cooper Energy considers that there is broad acceptance of the impacts and risks associated with the activity.
Environmental Performance	
The environmental performance outcomes, standards and measurement criteria for response preparedness and implementation of monitoring and evaluation activities are shown in the OPEP.	

8.6 SPILL RESPONSE: Protect and Deflect

8.6.1 Overview

Shoreline protection includes use of booms to deflect hydrocarbons to other areas for recovery or towards an area where there will be reduced impact (compared to more sensitive sites). Sand berms can also be created across inlet openings to form a physical barrier to separate hydrocarbons from sensitive resources. Booming and skimming operations are dependent on current, wave and wind conditions.

8.6.2 Resources Required and Availability

Response resources will be activated via AMOSC in the first instance, with equipment and resources selected on the basis of the Tactical Response Plan (TRP) activation and subsequent Incident Action Plan (IAP), as defined in the OPEP.

The feasibility / effectiveness of a protect and deflect response is provided in Table 8-13

Table 8-13: Feasibility / Effectiveness of Protect and Deflect Response

Parameter	Protect and deflect
Suitability/Functionality <i>How does the response strategy perform to achieve its required risk reduction?</i>	Successful implementation of the protection and deflection response strategy will reduce the oil reaching the shoreline. Protection strategies can be used for targeted protection of sensitive receptors. The use of zoom and beach guardian boom is the most technically suitable and feasible application of the response strategy. Alternative offshore boom types cannot be deployed successfully in shallow water due to depth of draft. Chevron, cascade and exclusion booming formations will be deployed based on the location.

Parameter	Protect and deflect
Dependencies <i>Does the response strategy rely on other systems to perform its intended function?</i>	Operational effectiveness of this response is dependent on monitoring and surveillance (including deterministic modelling predictions and visual surveillance) of the floating oil before stranding which enables the prioritization and targeted protection of environmental sensitivities. This will ensure boom is deployed at the sensitivities reducing the oil reaching the shorelines.
Availability and limitations <i>Time the response strategy is available to perform its function?</i>	Time to be operational - Based on the availability of personnel, equipment and vessels, the deployment of the response strategy will take place within 48 hours of response activation. Protection and deflection operations will take place during daylight hours only and in appropriate weather and tide conditions. Deployed boom formations will require regular monitoring to ensure continued effectiveness. Personnel downtime will be planned and managed to ensure appropriate levels of response personnel are maintained and rotated as required or until the response is terminated.

8.6.3 Protect and Deflect ALARP Evaluation

Protect and deflect ALARP considerations are included in Table 8-11.

Table 8-14: Protect and Deflect Response ALARP Evaluation

Additional control measures	Benefit	Cost	Outcome
Implement optimum protect and deflect sooner by storing equipment at strategic locations	The environmental benefits associated with this option are negligible; existing logistics pathways have demonstrated that this equipment can be mobilised to potentially impacted shorelines before shoreline contact occurs.	Most equipment proposed to be used (available via the various agreements) can only be mobilised in an emergency as it needs to be stored and available in strategic locations nationwide for the whole industry. Purchasing such equipment and pre-emptively storing them at shoreline locations within the EMBA, has been considered as a means to reduce response times, however it would result in significant costs that are considered grossly disproportionate to the level of risk reduction achieved.	Not Selected

8.6.4 Protect and Deflect Impact and Risk Evaluation

Protect and deflect activities have the potential to result in:

- interactions with shoreline and nearshore habitats.

Cause of the aspect

The following hazards are associated with protection and deflection activities:

- Boom deployment and management (especially anchored boom)
- Movement of sand for berm creation
- Waste collection

Aspect characterisation

Under prevailing SW conditions, MDO or condensate could reach rocky shores and sheltered sandy bays and inlets. Protection and deflection would be focused on protection priorities in the more sensitive and accessible locations such as Curdies Inlet and Port Campbell.

Cultural heritage, such as shell middens, may be found in many areas along the Victorian coast and across different shoreline types including sandy, rocky, sheltered and exposed shorelines, wetlands, inlets, estuaries, bays and river mouths (Vic First Peoples Relations, 2023). Some site locations may be relatively well known to the general public, others may not be. In the event of a spill threatening shorelines, known

sites within the impact area can be identified with the assistance of the State government and through consultation with the appropriate traditional owner groups.

Predicted Environmental Impacts and Risks:

The potential impacts of booming activities are:

- loss of seabed vegetation / disturbance to estuarine habitats and cultural heritage from equipment and personnel movements
- restricting access to the area for recreational activities.

Assessment of Environmental Impacts and Risks:

Risk Event: Loss of seabed vegetation / disturbance to estuarine habitats / disturbance to cultural heritage from booming.

Inherent Consequence Evaluation

Potential impacts of protect and deflect response vary, depending on the method used and the nearshore/shoreline habitat. Particular values and sensitivities in the area that may be affected by the spill include nearshore and estuarine habitats (such as seagrass) and shoreline habitats (sandy beach habitats) and cultural heritage sites along shorelines. Disturbance or damage to such sites will be minimised by identifying a buffer area, and cordon off such areas from response activities. If new sites are discovered, these will be reported to the relevant state regulatory agency.

Loss of vegetation or disturbance to heritage sites have the potential to occur where equipment cannot be mobilised using existing tracks or during placement of protection booms or movement of sand. Based upon the nature of the spill events associated with this EP, and the limited area of shoreline that would likely be exposed to hydrocarbons above impact / response thresholds, any impacts are likely to be highly localised to the response equipment.

These impacts could result in localised medium-term impacts to receptors with recovery over months to a year. As such the consequence has been ranked as a **Level 3**.

Inherent Likelihood

The likelihood of a significant spill event occurring is assessed as **Unlikely**. The likelihood of a significant spill to impact shoreline and cause moderate impacts to shoreline sensitivities is dependent on oceanographic conditions and is considered to be **Remote**.

Inherent Risk Severity

The inherent risk severity for this event is ranked as **Moderate**.

Risk Event: Restricting access to the area for recreational activities.

Inherent Consequence Evaluation

Potential impacts of protect and deflect response vary, depending on the method used and the nearshore/shoreline habitat. Particular values and sensitivities in the area that may be affected by the spill include local recreational activities along the coastline.

Based upon the nature of the spill events associated with this EP, and the limited area of shoreline that would likely be exposed to hydrocarbons above impact / response thresholds, any impacts are likely to be highly localised the response infrastructure. Areas maybe temporary restricted to the public while protection and deflection activities occur. As the diesel will weather rapidly this would only occur for days. As such, these impacts would likely result in localised short term impacts social receptors.

As such the consequence has been ranked as a **Level 2**.

Inherent Likelihood

The likelihood of a significant spill event occurring is assessed as **Unlikely**. The likelihood of a significant spill to impact shoreline and cause moderate impacts to shoreline sensitivities is dependent on oceanographic conditions and is considered to be **Remote**

Inherent Risk Severity

The inherent risk severity for this event is ranked as **Low**.

8.6.5 Control Measures, ALARP and Risk Assessment

Table 8-15 presents the EIA / ERA for protect and deflect activities.

Table 8-15: Shoreline Protection and Deflection Activities EIA / ERA

ALARP Decision Context and Justification	ALARP Decision Context A Implementing protect and deflect response techniques is standard practice for marine oil spills. There is a good understanding of potential impacts and risks from these techniques, and the control measures required to manage these. There is little uncertainty associated with the potential environmental impacts and risks, evaluated as Level 3. During consultation with the Eastern Maar Aboriginal Corporation the need for early contact to be made to EMAC in the event of a spill, in order to for EMAC to provide advice on risks to cultural heritage was noted. No objections or concerns were raised during stakeholder consultation regarding this activity or its potential impacts and risks. As such, Cooper Energy considers ALARP Decision Context A should apply.
Control Measure	Source of good practice control measures
Maintain protect and deflect capability	Cooper Energy will maintain the required level of response capability to implement a protection and deflection strategy commensurate with the spill events detailed in this EP.
Develop TRPs for priority protection sites	Identify priority protection sites and apply tactical response planning measures
CM4: Ongoing consultation	- Consultation in the event of a spill will ensure that relevant First Nations Peoples are involved in the protection of cultural features, and that government agencies support the protect and deflect strategy thus minimising potential impacts and risks to sensitivities. - Engagement with relevant State Agencies and First Nations groups in the event of a spill, with information provided on an as-needed basis, to identify and protect cultural heritage sites from disturbance associated with spill response activities. The Eastern Maar, Gunditj Mirring, Wadawurrung indigenous groups were consulted. The Wadawurrung group felt that, given the location of the operation activities, further consultation was not required. The Eastern Maar Aboriginal Corporation would like to be contacted in the event of a spill which could impact shorelines, to provide cultural heritage advice. Additionally, the Gunditj Mirring Traditional Owners Aboriginal Corporation requested to play a role in oil spill response activities. TO organisation representative contacts have been added to the Cooper Energy Emergency Response Contacts Register (CM4).
OSMP (Monitor response effectiveness)	Monitoring the response effectiveness will ensure response is terminated where the response is no longer effective or where a net environmental benefit is no longer present.
Use of Existing Tracks and Pathways	Utilising existing tracks and paths where possible will ensure the disturbance footprint associated with the implementation of this response technique is reduced to ALARP.
Impact and Risk Summary	
Residual Impact Consequence	N/A
Residual Risk Consequence	Level 3 - Localised medium-term impacts to species or habitats of recognised conservation value or to local ecosystem function; remedial, recovery over months/year.
Residual Risk Likelihood	The likelihood of a worst-case scenario spill was determined to be Unlikely (D). As such, the likelihood of impacts from protection and deflection activities have been determined to be Remote (E) .
Residual Risk Severity	Moderate
Demonstration of Acceptability	

Principles of ESD	The potential impact associated with this aspect is limited to a localised short-term impact, which is not considered as having the potential to affect biological diversity and ecological integrity. The activities were evaluated as having the potential to result in a Level 2 consequence thus is not considered as having the potential to result in serious or irreversible environmental damage. Consequently, no further evaluation against the principles of ESD is required.
Legislative and other requirements	Legislation and other requirements considered as relevant control measures include: • OPGGS Act 2006 (Commonwealth) • OPGGS Act 2010 (Victoria)
Internal context	Relevant management system processes adopted to implement and manage hazards to ALARP include: • Risk Management (MS03) • Technical Management (MS08) • Health Safety and Environment Management (MS09) • Incident and Crisis Management (MS10) • Supply Chain and Procurement Management (MS11) • External Affairs & Stakeholder Management (MS05)
External context	No stakeholder concerns have been raised to date regarding impacts and risks from protect and deflect strategies. As such, Cooper Energy considers that there is broad acceptance of the impacts associated with the activity.
Environmental Performance	
The environmental performance outcomes, standards and measurement criteria for response preparedness and implementation of Protect and Deflect activities are shown in the OPEP.	

8.7 SPILL RESPONSE: Shoreline Assessment and Clean-up

8.7.1 Overview

Any shoreline operations will be undertaken in consultation with, and under the control of Vic DTP, the Control Agency for Victoria, and the appropriate land managers of the shoreline affected.

Shoreline clean-up consists of different manual and mechanical recovery techniques to remove oil and contaminated debris from the shoreline to reduce ongoing environmental contamination and impact. It may include the following techniques:

- Natural recovery – allowing the shoreline to self-clean (no intervention undertaken).
- Manual collection of oil and debris – the use of people power to collect oil from the shoreline.
- Mechanical collection – use of machinery to collect and remove stranded oil and contaminated material.
- Sorbents – use of sorbent padding to absorb oil.
- Vacuum recovery, flushing, washing – the use of high volumes of low-pressure water, pumping and/or vacuuming to remove floating oil accumulated at the shoreline.
- Sediment reworking – move sediment to the surf to allow oil to be removed from the sediment and move sand by heavy machinery.
- Vegetation cutting – removing oiled vegetation; and
- Cleaning agents – application of chemicals to remove oil.

8.7.2 Resources Required and Availability

The number and tasks of personnel will vary according to the quantity of spill debris, its rate of accumulation at the site and the disposal method chosen.

Response resources will be activated via AMOSC in the first instance, with equipment and resources selected based on the TRP activation and subsequent IAPs as defined in the OPEP.

The feasibility / effectiveness of a shoreline assessment and clean-up response is provided in Table 8-16.

Table 8-16: Feasibility / Effectiveness Shoreline Assessment and Clean-up

Parameter	Shoreline Assessment and Clean-up
Suitability/Functionality <i>How does the response strategy perform to achieve its required risk reduction?</i>	Successful implementation of the shoreline assessment and clean up response strategy will result in a reduction of oil on the shoreline, assist in preventing the remobilization of oil and act to reduce the lasting impact of the oil spill on shoreline receptors. The method of clean up chosen will be selected based on shoreline type, local knowledge of the conditions and the availability of equipment and personnel. Oil clean up quantities are estimated to recover 1 m ³ per person/per day (manual recovery) and 24 m ³ per team/per day (mechanical collection)
Dependencies <i>Does the response strategy rely on other systems to perform its intended function?</i>	Operational effectiveness of this response is dependent on the continuous use of monitoring and surveillance to help direct clean-up efforts towards the areas most affected by stranded oil which enables the prioritization and targeted clean-up of environmental sensitivities.
Availability and limitations <i>Time the response strategy is available to perform its function?</i>	Time to be operational - Shoreline Clean-up and Assessment Technique personnel will be available on site within 24 hours of activation to commence terrestrial assessment. Personnel downtime will be planned and managed to ensure appropriate levels of response, personnel are maintained and rotated as required or until the response is terminated.

8.7.3 Shoreline Assessment and Clean-up ALARP Evaluation

Cooper Energy considers that during a 'worst-case' spill event (Level 2 MDO spill or Level 2/3 Subsea Well LOC), there are sufficient assessment and clean-up responses in the region to quickly respond, in most circumstances prior to shoreline contact. In some circumstances, such as a release close to shore, assessment and clean-up resources would follow shoreline contact; there are no practicable means to mobilise personnel site pre-contact. Resourcing and equipment details are provided in the OPEP.

8.7.4 Shoreline Assessment and Clean-up Impact and Risk Evaluation

Shoreline assessment and clean-up activities have the potential to result in:

- Interactions with shoreline habitats.

Cause of Aspect

The following activities associated with shoreline clean-up tactics may interact with shoreline habitats:

- personnel and equipment access to beaches
- shoreline clean-up
- waste collection and disposal.

Aspect characterisation

Cultural heritage, such as shell middens, may be found in many areas along the Victorian coast and across different shoreline types including sandy, rocky, sheltered and exposed shorelines, wetlands, inlets, estuaries, bays and river mouths (Vic First Peoples Relations, 2023). Some site locations may be relatively well known to the general public, others may not be. In the event of a spill threatening shorelines, known sites within the impact area can be identified with the assistance of the State government and through consultation with the appropriate traditional owner groups.

The shorelines within the activity EMBA, particularly those close to the activity location and at higher probability of exposure, are predominantly rocky shore platforms backed by sheer rocky cliffs interspersed with sandy beaches. Rock platforms and cliffs/headlands are low sensitivity habitats, though may have associated cultural heritage sites; these areas are often inaccessible. Natural recovery methods are most

effective, safe and feasible for these shoreline types. Shoreline clean-up is only considered for sandy beaches that may be affected by hydrocarbon residues. For exposed rocky shores or exposed wave-cut platforms any oil residue deposited is rapidly removed from exposed faces and clean-up is usually not required (NOAA, 2013).

MDO and condensate weather rapidly, with either no, or only a small fraction comprising persistent residuals. Under low energy conditions, the residual components may form a thin liquid sheer on the coast and may persist in the environment; this may allow them to be physically removed.

Predicted Environmental Impacts and Risks

The potential impacts of these activities are:

- disturbance to cultural heritage
- damage to or loss of shoreline habitats
- disturbance to fauna habitat and fauna behaviours
- temporary exclusion of the public from amenity beaches.

Risk Event: Disturbance to cultural heritage

Inherent Consequence Evaluation

The movement of people, vehicles and equipment through backshore and dune areas may disturb cultural heritage artefacts that occur at the surface or are buried. Disturbance or damage to such sites will be minimised by identifying a buffer area, and cordon off such areas from response activities. If new sites are discovered, these will be reported to the relevant state regulatory agency.

Based upon the potential for localised medium-term impacts to heritage, the consequence has been ranked as **Level 3**.

Inherent Likelihood

The likelihood of a significant spill event occurring is assessed as Unlikely. The likelihood of a significant spill to impact shoreline and cause moderate impacts to shoreline sensitivities is dependent on oceanographic conditions and is considered to be **Remote**.

Inherent Risk Severity

The inherent risk severity for this event is ranked as **Moderate**.

Risk Event: Damage to or loss of shoreline habitats

Inherent Consequence Evaluation

Sandy beaches have been used for the consequence evaluation as they are considered to provide a comprehensive indication of possible worst-case consequences as a result of implementing shoreline response activities (due to presence of potential sensitivities and the invasive nature of techniques such as mechanical collection). This is not to say that sandy beaches themselves are considered more sensitive than other habitats.

Based upon the low viscosity, it is possible that MDO will infiltrate porous shorelines (such as sandy beaches) where it washes onshore rapidly and has not significantly weathered. Consequently, mechanical recovery could be required (resulting in excavation of shorelines). If not done correctly, any excavation of hydrocarbon contaminated materials along the coast could exacerbate beach erosion to a point where its recovery is longer term.

Based upon the potential for localised medium-term impacts to shoreline sensitivities, the consequence has been ranked as **Level 3**.

Inherent Likelihood

The likelihood of a significant spill event occurring is assessed as Unlikely. The likelihood of a significant spill impacting shorelines resulting in moderate impacts to shoreline sensitivities is dependent on oceanographic conditions and is considered to be **Remote**.

Inherent Risk Severity

The inherent risk severity for this event is ranked as **Moderate**.

Risk Event: Disturbance to fauna habitat and fauna behaviours

Inherent Consequence Evaluation

The noise and general disturbance created by shoreline clean-up activities could potentially disturb the feeding, breeding, nesting or resting activities of resident and migratory fauna species that may be present (such as shorebirds and seabirds). Any erosion caused by responder access to sandy beaches, or the removal of sand, may also bury nests.

On the basis that these disturbances could cause medium term impacts to local populations of shorebirds and seabirds, the consequence has been ranked as **Level 3**.

Inherent Likelihood

The likelihood of a significant spill event occurring is assessed as Unlikely. The likelihood of a significant spill to impact shoreline and cause moderate impacts to shoreline sensitivities is dependent on oceanographic conditions and is considered to be **Remote**.

Inherent Risk Severity

The inherent risk severity for this event is ranked as **Moderate**.

Risk Event: Temporary exclusion of the public from amenity beaches

Inherent Consequence Evaluation

The presence of hydrocarbons on shorelines, and associated clean-up operations, depending on location, necessitate temporary beach closures. This means recreational activities (such as swimming, walking, fishing, boating) in affected areas will be excluded until access is again granted by local authorities. Diesel and condensate weather rapidly, clean-up operations are expected to take days-weeks following source control. As such, these impacts would likely result in localised short term impacts social receptors. As such the consequence has been ranked as a **Level 2**.

Inherent Likelihood

The likelihood of a significant spill event occurring is assessed as Unlikely. The likelihood of a significant spill to impact shoreline and cause moderate impacts to shoreline sensitivities is dependent on oceanographic conditions and is considered to be **Remote**.

Inherent Risk Severity

The inherent risk severity for this event is ranked as **Low**.

8.7.5 Control Measures, ALARP and Acceptability Assessment

Table 8-17 provides the EIA / ERA for shoreline assessment and clean-up activities.

Table 8-17: Shoreline Assessment and Clean-up Activities EIA / ERA

ALARP Decision Context and Justification	ALARP Decision Context A
	The implementation of shoreline assessment and clean-up response techniques are standard practice for marine oil spills where there is the potential for shoreline exposures. There is a good understanding of potential impacts and risks from these techniques, and the control measures required to manage these. There is slight uncertainty associated with the potential environmental impacts and risks, which have been evaluated as Level 3 due to the localised area of disturbance and (conservatively assessed) medium-term impacts associated with these response techniques. No objections or concerns were raised during stakeholder consultation regarding this activity or its potential impacts and risks. As such, Cooper Energy considers ALARP Decision Context A should apply.
Control Measure	Source of good practice control measures
Maintain shoreline assessment and clean-up capability	Cooper Energy will maintain the required level of response capability to implement a shoreline assessment and clean-up strategy commensurate with the spill events detailed in this EP.

CM4: Ongoing consultation	- Consultation in the event of a spill will ensure that First Nations Peoples are involved in the protection of cultural features, and that relevant government agencies support the protect and deflect strategy thus minimising potential impacts and risks to sensitivities. - Engagement with relevant State Agencies and Traditional Owner groups in the event of a spill, with information provided on an as-needed basis, to identify and protect cultural heritage sites from disturbance associated with spill response activities. The Eastern Maar, Gunditj Mirring, Wadawurrung indigenous groups were consulted. The Wadawurrung group felt that, given the location of the operation activities, further consultation was not required. The Eastern Maar Aboriginal Corporation would like to be contacted in the event of a spill which could impact shorelines, to provide cultural heritage advice. Additionally, the Gunditj Mirring Traditional Owners Aboriginal Corporation requested to play a role in oil spill response activities. TO organisation representative contacts have been added to the Cooper Energy Emergency Response Contacts Register (CM4).
Use of existing tracks and Pathways	Utilising existing tracks and paths where possible will ensure the disturbance footprint associated with the implementation of this response technique is reduced to ALARP.
Impact and Risk Summary	
Residual Impact Consequence	N/A
Residual Risk Consequence	Level 3 - Localised medium-term impacts to species or habitats of recognised conservation value or to local ecosystem function; remedial, recovery over months/year.
Residual Risk Likelihood	The likelihood of a worst-case scenario spill was determined to be Unlikely (D). As such, the likelihood of impacts from shoreline assessment and clean-up activities have been determined to be Remote (E) .
Residual Risk Severity	Moderate
Demonstration of Acceptability	
Principles of ESD	The potential impact associated with this aspect is limited to a localised medium-term impact, which is not considered as having the potential to affect biological diversity and ecological integrity. The activities were evaluated as having the potential to result in a Level 3 consequence thus is not considered as having the potential to result in serious or irreversible environmental damage. Consequently, no further evaluation against the principles of ESD is required.
Legislative and other requirements	Legislation and other requirements considered as relevant control measures include: - OPGGS Act 2006 (Commonwealth) - OPGGS Act 2010 (Victoria)
Internal context	Relevant management system processes adopted to implement and manage hazards to ALARP include: - Risk Management (MS03) - Technical Management (MS08) - Health Safety and Environment Management (MS09) - Incident and Crisis Management (MS10) - Supply Chain and Procurement Management (MS11) - External Affairs & Stakeholder Management (MS05)
External context	No stakeholder concerns have been raised to date regarding impacts and risks from shoreline assessment and clean-up strategies. As such, Cooper Energy considers that there is broad acceptance of the impacts associated with the activity.
Environmental Performance	

The environmental performance outcomes, standards and measurement criteria for response preparedness and implementation of shoreline clean-up activities are shown in the OPEP.

8.8 SPILL RESPONSE: Oiled Wildlife Response

8.8.1 Overview

In the event of a Level 2 or 3 hydrocarbon spill, the impacts on wildlife are determined by the types of fauna present, the type of oil spilled and the extent of exposure. A review of the species likely to be present within the ecological EMBA identifies seabirds, shorebirds and marine mammals could be affected (refer to Appendix 3).

Oiled wildlife response consists of a three-tiered approach involving:

- Primary: Situational understanding of the species/populations potentially affected (ground-truth species presence and distribution by foot, boat or aerial observations).
- Secondary: Deterrence or displacement strategies (e.g., hazing by auditory bird scarers, visual flags or balloons, barricade fences; or pre-emptive capture); and
- Tertiary: Recovery, field stabilisation, transport, veterinary examination, triage, stabilisation, cleaning, rehabilitation, release.

8.8.2 Resources Required and Availability

The Victorian DEECA are the agency responsible for responding to wildlife affected by a marine pollution emergency in Victorian waters. Only trained personnel may interact with oiled fauna species in accordance with the Victorian Wildlife Act 1975. Personnel may be deployed under the direction of DEECA to undertake wildlife response activities.

Cooper Energy will provide support for the response through the provision of resources. The equipment which Cooper Energy can supply or coordinate through external assistance (such as AMOSC) includes:

- Vessels for transport of wildlife and equipment.
- Oiled Fauna Kits.
- Wildlife intake and triage; and
- Wildlife cleaning and rehabilitation kits.

Response resources would be activated via AMOSC in the first instance, with equipment and resources selected on the basis of the TRP activation and subsequent IAPs as defined in the OPEP.

Cooper Energy identified the estimated waste types associated with an Oily Wildlife response technique to understand the response equipment and personnel required to support waste management activities.

Table 8-18 provides a conservative indication of the level of waste that may be required to be managed by this activity.

Table 8-18 Estimated Waste Types and Volumes from a BMG Vessel Collision Event

Response Technique	Waste Type	Waste Volume (m3)
Shoreline Clean-up –decontamination stations	Wastewater	1 m ³ per unit (1 bird = 1 unit)
	Personal Protective Equipment	5 kg per unit

The feasibility / effectiveness of an oiled wildlife response is provided in Table 8-19.

Table 8-19 Feasibility/Effectiveness of Shoreline Assessment and Clean-up Response

Parameter	Oiled Wildlife Response
Suitability/Functionality How does the response strategy perform to achieve its required risk reduction?	The oiled wildlife response may lead to the survival of impacted wildlife. The level of oiled wildlife response required can be scaled based on the predicted number of animals oiled.

Parameter	Oiled Wildlife Response
Dependencies Does the response strategy rely on other systems to perform its intended function?	Operational effectiveness of the oiled wildlife response relies on supporting monitoring information from aerial, vessel and ground surveys. This supporting information can be gathered during daylight hours only.
Availability and limitations Time the response strategy is available to perform its function?	Time to be operational - Once the oiled wildlife facility has been established, 24-hour continuous operations are feasible where it is required and confirmed safe to do so. Under the direction of DEECA personnel, downtime will be planned and managed to ensure appropriate levels of response personnel are maintained and rotated as required or until the response is terminated.

8.8.3 Oiled Wildlife ALARP Evaluation

OWR ALARP considerations are included in Table 8-20.

Table 8-20 OWR ALARP Evaluation

Additional control measures	Benefit	Cost	Outcome
Training and competencies	Personnel handling oiled wildlife are trained as fauna handlers or are guided by OWR-trained personnel. During an oil spill there is the potential for fauna to come into contact with floating or stranded oil. If this occurs, State response agencies would lead oiled wildlife response, with Cooper Energy providing labour and resources as requested by the controlling agency.	State agencies lead the oiled wildlife response, providing trained personnel, technical expertise and instruction to Cooper Energy for support as required, training additional personnel before an event occurs is not expected to provide any benefit; responders will be given direction from the appropriate agency during an OWR. This option has therefore not been implemented.	Not Selected

8.8.4 Oiled Wildlife Impact and Risk Evaluation

Cause of Aspect:

The activities associated with OWR that have the potential to impact on fauna are:

- hazing of target fauna that may deter non-target species from their normal activities (resting, feeding, breeding, etc.)
- inappropriate handling and treatment that may cause distress, injury or death of target fauna

Aspect Characterisation:

MDO and condensate weather rapidly, with either no, or only a small fraction comprising persistent residuals. The shorelines within the activity ecological EMBA, particularly those close to the activity location and at higher probability of exposure, are predominantly rocky shore platforms backed by sheer rocky cliffs interspersed with sandy beaches, with limited potential for oiling of wildlife, and oiled wildlife response would be targeted.

Potential Impacts and Risks:

- The potential impacts of this activity are disturbance, injury or death of fauna.

Impact and Risk Evaluation:

Risk Event: Disturbance, injury or death of fauna

Untrained resources capturing and handling native fauna may cause distress, injury and death of the fauna. To prevent these impacts, only DEECA-trained oiled wildlife responders will approach and handle fauna.

This will eliminate any handling impacts to fauna from untrained personnel and reduce the potential for distress, injury or death of an animal.

It is preferable to have oil-affected animals that have no prospect of surviving or being successfully rehabilitated and released to the environment humanely euthanized than to allow prolonged suffering. The removal of these individuals from the environment has additional benefits in so far as they are not consumed by predators/scavengers, avoiding secondary contamination of the food-web.

Hazing and exclusion of wildlife from known congregation, resting, feeding, breeding or nesting areas may have a short- or long-term impact on the survival of that group if cannot access preferred resources. These effects may be experienced by target and non-target species. For example, shoreline booming, or ditches dug to contain oil may prevent penguins from reaching their burrows after they exit the water and low helicopter passes flown regularly over a beach (to deter coastal birds from feeding in an oil-affected area) may also deter penguins from leaving their burrows to feed at sea, which may impact on their health.

Due to the potential for localised short-term impacts to species/habitats of recognised conservation value but not affecting local ecosystem functioning, the potential impacts from this activity have been identified as **Level 2**.

8.8.5 Control Measures, ALARP and Acceptability Assessment

Table 8-21 provides the EIA / ERA for OWR activities.

Table 8-21 Shoreline Assessment and Clean-up EIA/ERA

ALARP Decision Context and Justification	ALARP Decision Context A The implementation of OWR activities is standard practice for marine oil spills where there is the potential for hydrocarbon exposure to wildlife. There is a good understanding of potential impacts and risks from these techniques, and the control measures required to manage these. There is little uncertainty associated with the potential environmental impacts and risks, which have been evaluated as Level 2 due to the incidental expected impacts from this response. No objections or concerns were raised during stakeholder consultation regarding this activity or its potential impacts and risks. As such, Cooper Energy believes ALARP Decision Context A should apply.
Control Measure	Source of good practice control measures
Maintain Oiled Wildlife Response capability	Cooper Energy will maintain the required level of response capability to implement an OWR strategy commensurate with the spill events detailed in this EP.
CM4: Ongoing Consultation	- Consultation in the event of a spill will ensure that relevant First Nations Peoples are involved in the protection of cultural features, and that government agencies support the OWR thus minimising potential impacts and risks to sensitivities. - Engagement with relevant State Agencies and Traditional Owner groups in the event of a spill, with information provided on an as-needed basis, to identify and protect cultural heritage sites from disturbance associated with spill response activities. The Eastern Maar, Gunditj Mirring, Wadawurrung indigenous groups were consulted. The Wadawurrung group felt that, given the location of the operation activities, further consultation was not required. The Eastern Maar Aboriginal Corporation would like to be contacted in the event of a spill which could impact shorelines, to provide cultural heritage advice. Additionally, the Gunditj Mirring Traditional Owners Aboriginal Corporation requested to play a role in oil spill response activities. TO organisation representative contacts have been added to the Cooper Energy Emergency Response Contacts Register (CM4).
Use of existing tracks and Pathways	Utilising existing tracks and paths where possible will ensure the disturbance footprint associated with the implementation of this response technique is reduced to ALARP.

Trained fauna handlers will handle wildlife (unless different direction is received from State agency)	Wildlife is only approached or handled by State agency trained oiled wildlife responders unless formal direction is received from the Government IMT. Cooper Energy response personnel are advised of wildlife interaction restrictions through site safety inductions.
Impact and Risk Summary	
Residual Impact Consequence	N/A
Residual Risk Consequence	Level 2 - Localised short-term impacts to species or habitats of recognised conservation value not affecting local ecosystem function; remedial, recovery work to land, or water systems over days/weeks.
Residual Risk Likelihood	The likelihood of a worst-case scenario spill was determined to be Unlikely (D). As such, the likelihood of impacts from OWR activities have been determined to be Remote (E) .
Residual Risk Severity	Low
Demonstration of Acceptability	
Principles of ESD	The potential impact associated with this aspect is limited to a localised short-term impact, which is not considered as having the potential to affect biological diversity and ecological integrity. The activities were evaluated as having the potential to result in a Level 2 consequence thus is not considered as having the potential to result in serious or irreversible environmental damage. Consequently, no further evaluation against the principles of ESD is required.
Legislative and other requirements	Legislation and other requirements considered as relevant control measures include: • OPGGS Act 2006 (Commonwealth) • OPGGS Act 2010 (Victoria) • EPBC Act 1999 and EPBC Regulations 2000 • Emergency Management Act 2013 (Victoria) • <i>Wildlife Act 1975 (Victoria)</i> Oil Spill Response Technical Guidelines: The adopted controls have been guided by the following technical guides: • Wildlife Response Preparedness IPIECA, 2014b • State Maritime Emergencies (non-search and rescue) Subplan (State of Victoria, Department of Transport, 2021)
Internal context	Relevant management system processes adopted to implement and manage hazards to ALARP include: • Risk Management (MS03) • Technical Management (MS08) • Health Safety and Environment Management (MS09) • Incident and Crisis Management (MS10) • Supply Chain and Procurement Management (MS11) • External Affairs & Stakeholder Management (MS05)
External context	No stakeholder concerns have been raised to date regarding impacts and risks from OWR strategies. As such, Cooper Energy considers that there is broad acceptance of the impacts associated with the activity.
Environmental Performance	
The environmental performance outcomes, standards and measurement criteria for response preparedness and implementation of OWR activities are shown in the OPEP.	

9 Environmental Performance Outcomes, Standards and Measurement Criteria

This section summarises the EPOs, standards, and measurement criteria that have been developed as part of a systematic approach to the management of environmental risks as identified in Section 6. The EPOs, standards and criteria related to the Otway Offshore Operations activities are shown in Table 9-1. Also shown are key responsible and accountable personnel who will ensure the EP is implemented and records of implementation retained.

The following legislative and guideline definitions are used in this section:

- EPOs – a measurable level of performance required for the management of the environmental aspects of the activity to ensure the environmental impacts or risks will be of an acceptable level.
- EPSs – a statement of performance required of an adopted control measure; and
- Measurement criteria – defines the measure by which environmental performance will be measured to determine whether the EPO has been met.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Table 9-1: EPOs, Standards and Measurement Criteria

EPO	Control Measure	EPS	Measurement Criteria	Responsible Person	Activity	Applicable Jurisdiction
EPO1: Undertake the activity in a manner that will not interfere with other marine users to a greater extent than is necessary for the exercise of right conferred by the titles granted. EPO2: No substantial and unrecoverable impacts to cultural heritage EPO13: the activity does not prevent any cultural practice from taking place EPO14: the activity does not destroy any cultural feature of the environment.	CM1: Marine exclusion and caution zones	Permanent PSZs shall be gazetted. Subsea infrastructure is marked on navigational charts. 500 m safety exclusion / caution zone to be established via Notice to Mariners around vessels undertaking petroleum activities.	PSZ gazetted notice Navigational charts Completed Notice to Marines request	Operations Manager Operations Manager Project Manager	Operations Operations IMR	Cwth State and Cwth State and Cwth
	CM2: Pre-start notifications	The AHS and / or TSV will be notified no less than four working weeks before operations commence to enable Notices to Mariners to be published. AMSA's JRCC will be notified 24-48 hours before operations commence to enable AMSA to distribute an AUSCOAST warning. AMSA JRCC will also be notified if the vessel moves out of the area that the broadcast is issued for.	Email records Email records / Daily report	Project Manager Vessel Master	IMR IMR	State and Cwth State and Cwth
	CM3: Marine Order 27 Safety of navigation and radio equipment	Vessels shall meet the safety of navigation and radio equipment requirements of AMSA MO27.	Vessel inspection records	Vessel Master	IMR	State and Cwth
	CM4: Ongoing consultation	Notifications for any on-water activities and ongoing consultations undertaken per Section 11 - Consultation. Addition of relevant First Nations contacts to Emergency Contact Register. Engagement with relevant First Nations Representatives in the event of a loss of containment of hydrocarbons	Notification records Emergency Contact List	Project Manager	IMR	State and Cwth

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		which may extend to coastlines to obtain advice on the management of cultural sensitivities which may be in the spill trajectory.					
	CM5: Fisheries Damage Protocol	Fisheries Damage Protocol in place to provide a compensation mechanism to fishers who damage fishing equipment on Otway assets infrastructure outside of the PSZ.	Fisheries Damages Protocol	General Manager Projects and Operations	Operations, IMR	State and Cwth	
	CM6: Marine Order 30: Prevention of collision	Navigation, radar equipment, and lighting meets the Marine Order 30 requirements	Vessel inspection records	Vessel Master	IMR	State and Cwth	
	CM7: Marine Order 21: Safety and emergency arrangements	Vessels shall meet the requirements for safety and emergency arrangements of the Marine Order 21.	Vessel inspection records	Vessel Master	IMR	State and Cwth	
	CM8: Decommissioning protocol	Decommissioning planning and scheduling shall be progressed in accordance with the Cooper Energy Decommissioning Protocol and decommissioning and end states accepted by the relevant Regulator.	Decommissioning Plans	Operations Manager	Operations	State and Cwth	
	CM39: Underwater Cultural Heritage Disturbance Risk Management Measures	- Seabed anomalies that are not natural features or conventional equipment or debris, will not be disturbed and survey data will be reviewed by a qualified maritime archaeologist to determine if they are of heritage value. - Any new suspected underwater cultural heritage to DCCEW within 21 days of discovery.	Project Operational Reports Notification and Reporting Records	Project Manager	IMR	State and Cwth	
EPO3: No serious or irreversible harm to a	CM6: Marine Order 30: Prevention of collision	Navigation, radar equipment, and lighting meets the Marine Order 30 requirements	Vessel inspection records	Vessel Master	IMR	State and Cwth	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

threatened or migratory listed species. EPO4: No serious or irreversible change in water quality which may adversely impact on biodiversity, ecological integrity, social amenity or human health. EPO5: No serious or irreversible changes to seabed which may adversely impact on biodiversity, ecological integrity, social amenity or human health. EPO6: No spill of chemicals or hydrocarbons to the marine environment EPO7a: Impacts to marine Fauna from Activity noise emissions will be limited to temporary behavioural change localised to the noise source, with no species population-level impacts. EPO7b: Any whale can continue to utilise the area without injury (PTS or TTs). EPO7c: Activities do not cause displacement of any blue whale from a foraging area. EPO7d: Activities do not prevent any southern right whale from utilising a migration BIA or HTCS. EPO7e: The risk of behavioural disturbance to southern right whales inside and adjacent to BIAs and HCTS and is minimised. EPO8: No unplanned discharge of waste or objects to the marine environment.	CM9: Pre-campaign risk review (light)	A pre-campaign risk review will include an assessment against the National Light Pollution Guidelines for Wildlife including marine turtles, seabirds and migratory shorebirds (CoA 2020a) and additional controls will be implemented where required according to the relevant species conservation management plans.	Completed Risk Review Records	Project Manager	IMR	State and Cwth
	CM10: Planned Maintenance System	Critical equipment on vessels will be maintained in accordance with preventative maintenance system to ensure efficient operation including: - Combustion Equipment (Vessels) - Thrusters (Vessels) - Equipment used to treat discharges to AMSA standards (Vessel)	PMS records	Vessel Master	IMR	State and Cwth
	CM11: Cooper Energy Offshore Chemical Assessment Procedure	Project chemicals will meet the requirements of the Cooper Energy Offshore Chemical Assessment Procedure.	Completed and approved chemical assessment	Project Manager	Operations, IMR	State and Cwth
	CM12: Emissions and Discharge Standards	Prior to commencing the offshore activity, the following will be verified, as relevant to vessel class: - Low-sulphur (<0.5% m/m) marine-grade diesel used. - Valid IAPPC and IEEC - Active Ship Energy Efficiency Management Plan. Vessel NOx emissions levels meet Reg 13 MARPOL 73/78 Annex VI.	Bunker receipts SEEMP records Certification	Vessel Master	IMR	State and Cwth
		Billge water treated via a MARPOL (or equivalent) approved oily water separator and only discharge if oil content less than 15 ppm.	Oil record book	Vessel Master	IMR	State and Cwth

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

EPO9: No introduction, establishment or spread of a known or potential invasive marine species EPO13: the activity does not prevent any cultural practice from taking place EPO14: the activity does not destroy any environment receptor which is a cultural feature, or which forms part of a cultural feature.		- Sewage may be discharged no less than 4 nm from land and at sea is treated via a MARPOL (or equivalent) approved sewage treatment system or as allowed under AMSA discharge standards and Victorian Pollution of Waters by Oil and Noxious Substances Act 1986. - food waste only discharged when: - vessel is en-route and >12 nm from land or - food waste is comminuted or ground to <25 mm and vessel is en route and >3 nm from land.	Certification documentation	Vessel Master	IMR	State and Cwth
	CM13: EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans and Victorian (Marine Mammals) Regulations 2019	- Vessel operators shall adhere to the distances and vessel management practices of EPBC Regulations (Part 8) and Victorian (Marine Mammals) Regulations within respective jurisdictions, as a minimum, and shall report vessel interactions with dolphins and whales. Helicopters will not fly lower than 1650 ft when within 500 m horizontal distance of a cetacean except when landing or taking off and will not approach a cetacean from head on. - Marine mammal sightings will be	Daily operations report details when whales and dolphins sighted, and the interaction management actions were implemented, if required.	Vessel Master	IMR	State and Cwth

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

	CM14: Vessel compliant with MARPOL Annex I, as appropriate to class (i.e., SMPEP or equivalent).	recorded and submitted to DCCEW. Sighting will be reported within two months of the end of an activity.	Vessel SMPEP Vessel exercise schedule Vessel inspection	Vessel Master	IMR	State and Cwth
	CM15: Waste Management Practices	- Vessels implement a garbage management plan. - The waste hierarchy is applied to project wastes. - Waste with potential to be windblown shall be stored in covered containers. - Waste lost overboard is recorded and recovered if possible. - Waste transfers are recorded. Spill response kits are located in high spill risk areas and routinely checked to ensure adequate.	Garbage management plan Waste transfer records	Vessel Master	IMR	State and Cwth
	CM16: Installation Procedures	- Installation procedures shall be developed which take into account seabed relief sensitive seabed features (i.e., sponge gardens) and underwater cultural heritage. - Equipment will be placed according to procedures	Equipment installation procedures Installation records	Project Manager	IMR	State and Cwth
	CM31: CEMS MS11 Supply Chain and Procurement management. Supplier Assessments.	Vessel selection process includes consideration of:	Vessel specifications and evaluations.	Project Manager	IMR	State and Cwth

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		- vessels with silent notation where tendered. - relative nature/scale of potential subsea noise impacts from vessels tendered.	Campaign Risk Review report Campaign Operations Report / Schedule	Project Manager	IMR	State and Cwth
	CM17: pre-IMR Campaign Risk Review (noise)	A Campaign Risk Review, as detailed in Section 10.10, will be undertaken prior to the activity commencing, to identify an environmental window where risks to endangered whales (from subsea noise) are avoided where practicable, and to ensure that risks are continually reduced to levels that are ALARP and are of an acceptable level. The resulting activity schedule will, during peak and shoulder seasons for respective species: - Avoid intrusion of activity vessel DP noise (above behavioural disturbance threshold) into preferred calving and nursing areas (<10m water depth) within 1km of the coastline (State waters) when occupied by pregnant or nursing southern right whales. - operate vessels at speeds <10 knots within operational areas overlapping with southern right whale preferred calving and nursing areas (<10m water depth) within 1km of the coastline (State waters)				
	CM39: Vessel Speed	Vessels undertaking petroleum activities in operational areas overlapping	Operations Reports	Vessel Master	IMR	State

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		with preferred calving and nursing areas (<10 m water depth) within 1 km of the coastline will operate at <10 knots during times when southern right whales are expected to be present (including peak and shoulder seasons).					
CM18: Whale Disturbance Risk Management Procedure	The Whale Disturbance Risk Management Procedure will be implemented. Provisions include: • Establishment of a communications protocol between observers, IMR vessel master and project team. • Induction of observers to observation, communication and response requirements. When vessel activity noise exceeds behavioural disturbance thresholds within southern right whale HTCS (State waters) or blue whale foraging area (State and Cwth waters), at times the respective species are expected to be in the area: • Dedicated MMO for the hours of daylight (defined as sunset to sunrise). A 2nd MMO where necessary if daylight extends beyond 12-hr period. • Dedicated MMOs shall have demonstrated prior experience in the ID of large baleen	Noise modelling report Daily reports and / or observation sheets. Campaign induction records MMO Experience records	Project Manager	IMR	State and Cwth		

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

				whales, distance estimation and systems of recording and reporting. • Inducted crew observers to support dedicated MMO during rest breaks. • Application of whale observation and noise shutdown zones with radius equivalent to the behavioural disturbance thresholds of the vessel. • Pre-DP start observation for the 30 minutes prior to commencing DP for the planned activity. DP will not commence until southern right or blue whales are not observed within the shutdown zone, or are observed departing the shutdown zone. Where a southern right or blue whale is sighted within the shutdown zone, the Vessel will: • Suspend DP operations when safe to do so (as determined by vessel master or delegate in command). • Adopt favourable heading to reduce thruster load (and associated noise) and slowly increase separation from whale if safe to do so (as determined by vessel				

CHN-EN-EMP-0001 Rev 12

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		plan for Integrity Management (CHN-IR-IMP-0001).		International energy efficiency certificate Bunker receipts SEEMP records Certification	Vessel Master	IMR	State and Cwth
EPO10: Air emissions requirements from vessels within the Operational Area are consistent with Marine Order 97 requirements	CM24: Vessels comply with Marine Order 97 – Marine Pollution – air quality	Vessels will comply with Marine Orders – Part 97: Marine Pollution Prevention – Air Pollution (appropriate to vessel class) for emissions from combustion of fuel including: - Hold a valid International Air Pollution Prevention (IAPP) certificate - Engine NOx emission levels will comply with Regulation 13 of MARPOL 73/78 Annex VI. - Sulphur content of diesel/fuel oil complies with Marine Order Part 97 and Regulation 14 of MARPOL 73/78 Annex VI.				IMR	State and Cwth
EPO11: Manage direct and indirect GHG emissions from the Otway Offshore Operations consistent with Australia's international GHG emissions commitments, as outlined in the <i>Climate Change Act 2022 (Cwth)</i> and the <i>Climate Change Act 2017 (Vic)</i>	CM24: Vessels comply with Marine Order 97 – Marine Pollution – air quality	Vessels will comply with Marine Orders – Part 97: Marine Pollution Prevention – Air Pollution (appropriate to vessel class) for emissions from combustion of fuel including: - Hold a current international energy efficiency certificate. - Have a Ship Energy Efficiency Management Plan (SEEMP) as per MARPOL 73/78 Annex VI.		IAPP certificate Bunker receipts SEEMP records Certification	Vessel Master	IMR (Direct GHG emissions)	State and Cwth
	CM25: Athena Gas Plant Fugitive Leak Detection and Repair Program	A Fugitive Leak Detection and Repair Program is implemented at Athena Gas Plant.		Athena Gas Plant Maintenance Management System	Operations Manager	Operations (Indirect GHG emissions)	State and Cwth

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

			Fugitive Gas Emissions Testing Record				
CM26: Emissions Forecasting	Emissions forecasts are integrated with production within Cooper Energy's Portfolio process.	Annual emissions forecast	General Manager HSE, & Technical Services	Operations		State and Cwth	
CM27: Athena Gas Plant production metering	Fuel gas use, production and sales volumes are metered at the Athena Gas Plant, informing emissions accounts.	Monthly emissions report.	Operations Manager	Operations		State and Cwth	
CM28: Monitoring and reporting of emissions	Routine reporting of actual emissions vs budget emissions to Executive.	Weekly Board update report	General Manager HSE, & Technical Services	Operations		State and Cwth	
CM29: Emissions Reduction Protocol	Emissions Reduction Protocol is implemented for Otway operations, with focus on onshore gas processing, to: - identify and assess emissions reduction opportunities - establish business case metrics, and - inform capital allocation.	Marginal Abatement Cost Curve Emissions Reduction Workshop records	Operations Manager	Operations		State and Cwth	
CM30: Cooper Energy Scope 1 and 2 carbon neutrality	Maintain carbon neutrality for Cooper Energy's scope 1 and 2 emissions associated with the Otway Offshore activity.	Annual carbon account Carbon offset retirement records Climate Active PDS	General Manager HSE, & Technical Services	IMR (Direct GHG emissions)		State and Cwth	
CM31: CEMS MS11 Supply Chain and Procurement management. Supplier Assessments.	GHG emission reduction initiatives are considered in the contractor evaluation process for IMR and support vessels.	Tender scope of work Tender evaluation forms	Project Manager	IMR (Direct GHG emissions)		State and Cwth	
CM32: pre-IMR Campaign Risk Review (GHG emissions)	A Campaign Risk Review will be undertaken prior to the activity commencing. It will include a review of the campaign emissions profile and management to ensure that risks are continually	Campaign Risk Review report	Project Manager	IMR		State and Cwth	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		reduced to levels that are ALARP and are of an acceptable level. The review will be undertaken within 6-months prior to an IMR activity commencing to assess new or updated regulatory requirements.					
	CM33: NGER Scheme Reporting	GHG emissions are reported annually in accordance with NGER regulatory requirements.	NGER Reports	Environment & Sustainability Manager	Operations, IMR (Direct GHG emissions)	State and Cwth	
	CM34: Domestic customer base	All gas and condensate from Otway operations is sold to domestic customers.	Gas sales agreements Annual Report	Chief Commercial Officer	Operations (Indirect GHG emissions)	State and Cwth	
	CM35: Customer engagement on emissions intensity	Lifecycle emissions intensity of Cooper Energy gas is communicated with customers to promote discussion around compensation for emissions associated with downstream distribution and combustion of gas by customers.	Sustainability Report Customer meeting records	Chief Commercial Officer	Operations (Indirect GHG emissions)	State and Cwth	
	CM36: Environment & Sustainability Risk Review	Cooper Energy's Functional Environment & Sustainability Risk Register considers the risk of customers becoming mis-aligned with National emissions reduction strategies. The Risk Register is on an annual review cycle and is reported to the Executive.	Environment & Sustainability Risk Register	Environment & Sustainability Manager	Operations (Indirect GHG emissions)	State and Cwth	
EPO12: Impacts to values and sensitivities are minimised ⁶ in the event of a loss of hydrocarbons. EPO13: the activity does not prevent any cultural practice from taking place	CM6: Marine Order 30: Prevention of collision	Navigation, radar equipment, and lighting meets the Marine Order 30 requirements	Vessel inspection records	Vessel Master	IMR	State and Cwth	
	CM37: OPEP	Emergency spill response capability is maintained in accordance with the OPEP.	Records confirm that emergency response activities have been implemented in	Incident Management Team (IMT) Incident Controller (IC)	Operations, IMR	State and Cwth	

⁶ Reduction of the potential extent of the area affected (based on the worst-case scenarios identified in Section 6.7) and/or time and sensitivities exposure.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

EPO14: the activity does not destroy any cultural features.		Emergency response activities will be implemented in accordance with the OPEP.	accordance with the OPEP			
	CM38: OSMP	Operational and scientific monitoring will be implemented in accordance with the OSMP.	Records confirm that operational and scientific monitoring have been implemented in accordance with the OSMP	IMT IC	Operations, IMR	State and Cwth

10 Implementation

Cooper Energy retains full and ultimate responsibility as the Titleholder of the activity and is responsible for ensuring that the Otway Offshore Operations and associated activities are implemented in accordance with the performance outcomes outlined in this EP.

The Commonwealth OPGGS(E)R Regulation 22 and Victorian OPGGSR Regulation 16 require that an implementation strategy must be included in an EP. The Implementation Strategy described in this section provides a summary of the Cooper Energy Management System (CEMS); the system applies to in both State and Cwth waters, and impacts and risks managed under both State and Cwth legislation.

10.1 Cooper Energy Management System (CEMS)

The CEMS is Cooper Energy's integrated management system which consolidates all of Cooper's business processes into one system of management. It incorporates HSEC, Operations, Well Construction, Engineering and Finance in accordance with a set of core concepts (Table 10-1).

The CEMS document hierarchy is shown in Figure 10-1: with Cooper Energy's Health, Safety, Environment and Community (HSEC) Policy shown in Figure 10-2 and CEMS standards list in Table 10-2.

Table 10-1: Cooper Energy's Management System Core Concepts

Core Concepts	
People	- How we organise (line and function) - Which roles we need - Which skills we need - How we build and sustain capability
Culture	- Why we exist - What we value - How we work together - How we communicate
Process	- What we do - How we do it - How we learn - How we continuously improve
Technology	- Which tools we use - How we use them - How we support people to perform their role
Governance	- How we manage risk - How we make decisions - How we ensure safety, quality and technical integrity

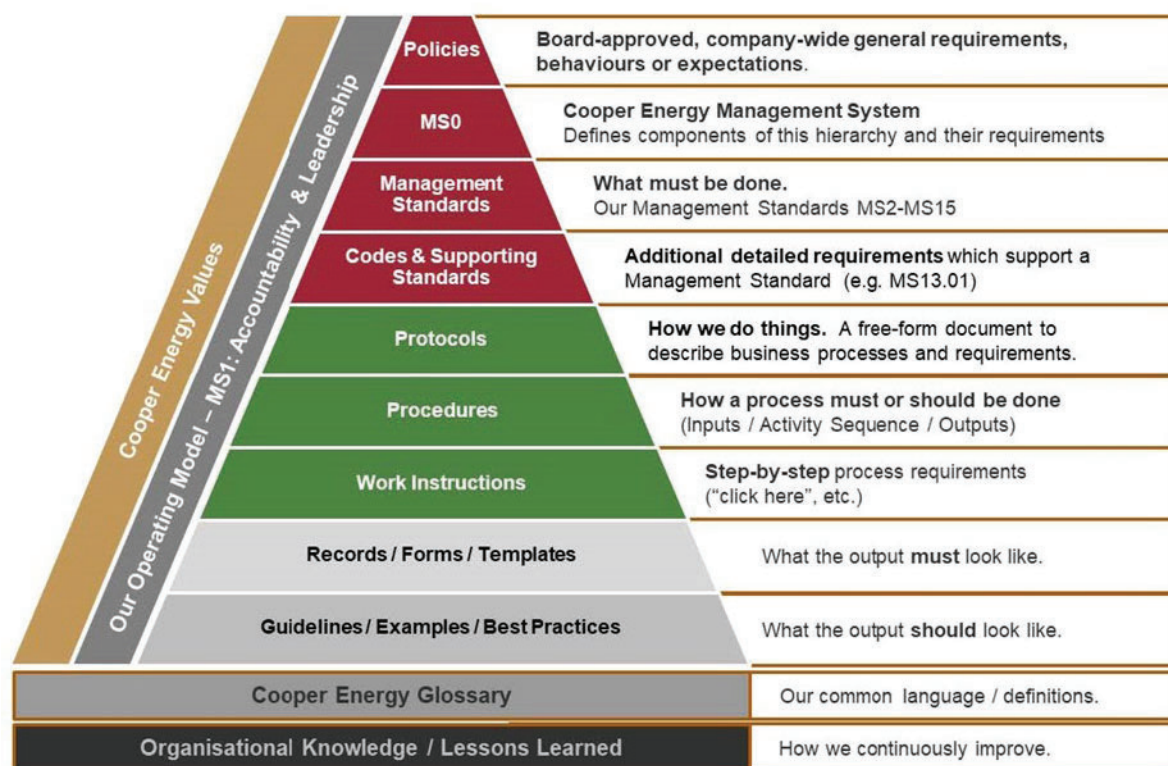


Figure 10-1: CEMS Document Hierarchy

Table 10-2: CEMS Standards

CEMS Standard	Focus Area
MS00	Statement of Intent and Expectations
MS01	Accountability and Leadership
MS02	People Management
MS03	Risk Management
MS04	Strategy and Planning Management
MS05	External Affairs, Investor Relations, Community and Stakeholder Management
MS06	Information Systems
MS07	Operations Management
MS08	Technical Management
MS09	Health, Safety and Environment Management
MS10	Incident and Crisis Management
MS11	Supply Chain and Procurement Management
MS12	Technical Assurance and Compliance Management
MS13	Financial Management
MS14	Commercial Marketing and Economics Management
MS15	Asset Lifecycle Management

Health, Safety and Environment Policy



Cooper Energy | HSEC | Policy

This policy describes our approach to managing Health, Safety and Environmental risks at Cooper Energy

Our Commitment

Cooper Energy is committed to taking all reasonably practicable steps to protect the health and safety of our workers, contractors, partners, and the communities in the areas where we operate.

In addition, we will ensure our business is conducted in an environmentally responsible manner.

Our Actions

We will:

- **Integrate** health, safety and environmental requirements into our daily work, our business planning and our decision making
- **Comply** with all relevant health, safety and environmental laws and regulations
- **Provide** resources and systems to enable delivery of our health, safety and environmental objectives
- **Identify, control and monitor** risks that have the potential to harm people and the environment to as low as reasonably practical
- **Empower** our people, regardless of position, to "Stop the Job" if they consider it necessary to prevent harm to themselves, others or the environment
- **Consult, communicate and promote participation** of our workforce to build and maintain a strong health, safety and environment culture
- **Ensure** all employees and contractors are trained, competent and suitably supervised so that works are undertaken in a safe and environmentally responsible manner
- **Collaborate** proactively with our stakeholders and the communities where we operate
- **Investigate and learn** from our incidents and from those in our industry
- **Set, measure and monitor** health, safety and environmental targets to drive continuous improvement in our performance
- **Report** publicly and transparently on our health, safety and environmental performance

Governance

The **HSE Improvement Forum** has oversight of this policy. The Managing Director is accountable for communicating this Policy and for ensuring compliance with its undertakings. All **Executive Leadership Team** members and Managers shall ensure the effective implementation, management and monitoring of our HSE Management System and its subsequent outcomes.

All Staff are responsible for compliance with our policy, standards, and procedures.

This policy will be reviewed at appropriate intervals and revised as necessary to keep it current.

Policy authorised by

Jane Norman

Managing Director & CEO

Date: 13 July 2023 Review Date: 13 July 2026

Figure 10-2: Cooper Energy Health, Safety, Environment and Community Policy

10.2 Asset Integrity Management

The integrity of all Cooper Energy Assets is managed in line with MS08: Technical Management.

The Well Operations Management Plan (CHN-DC-WMP-0001) describes the well integrity management, controls, verification, and maintenance for well activities in the offshore Otway (Cwth waters). Well integrity is demonstrated through the maintenance of a primary and a secondary well barrier envelope. The WOMP details the well barrier elements and performance standards and their implementation through the well life cycle.

The Facility Integrity Management Plan (CHN-IR-IMP-0001) describes how Cooper Energy manages integrity of the Otway offshore assets, utilising the Plan-Do-Act-Check cycle (State and Cwth waters). The overall strategy is to maintain the assets as close to their design condition as possible. Accordingly, the integrity of the Otway offshore assets is maintained and monitored in a number of ways, including by:

- Design, pressure containment and primary protection functions:
 - Design basis and documentation
 - Protection and support structures
 - External corrosion protection system
 - Internal corrosion control system
 - Restriction and safety zone systems
 - Intervention procedures
 - Pipeline integrity reviews
- Monitoring and inspection:
 - Marine activity monitoring
 - Weather (exceedance) monitoring
 - ROV visual and CP inspection
 - Stakeholder engagement (facility awareness).

This approach is preferred to 'controlled deterioration' as it attempts to maintain enough control effectiveness to prevent 'surprise' deterioration threatening integrity, acknowledges that individual control effectiveness will not always be perfect and provides operational flexibility for decommissioning options.

10.3 Project Planning

Activities such as IMR, new stages and decommissioning are planned and executed in accordance with MS15: Asset Lifecycle Management. Cooper Energy uses a gated process; the process workflow is divided into phases (Figure 10-3). Each phase is subject to assurance processes and a gate review, the outcomes of which include continue, stop, hold, or recycle.

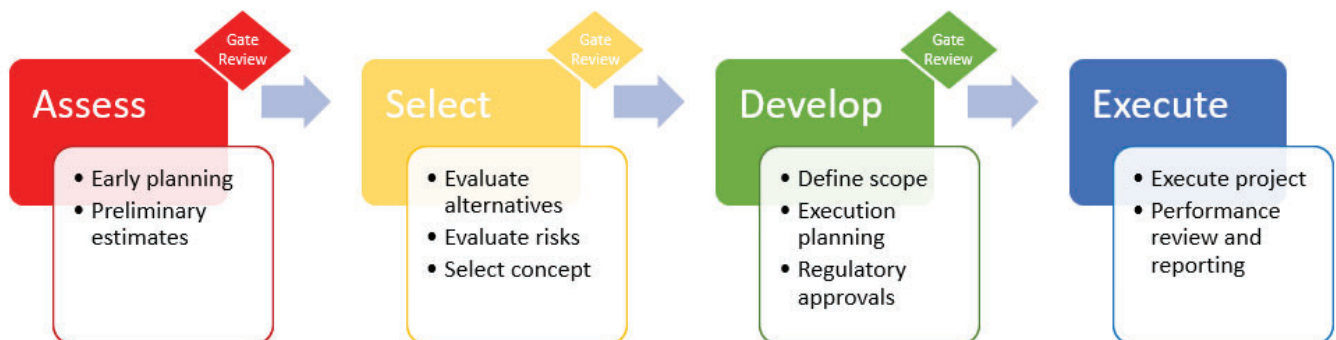


Figure 10-3: Project Workflow

10.3.1 Facility Life Extension Strategy

Cooper Energy intend to extend the life of the CHN facilities and use them to continue to produce gas from existing and new fields in the Otway basin, whilst there is continued demand within the Australian domestic energy market. The tie-in of new fields and life extension of the facilities requires new projects to be commercially viable, and to receive the required regulatory approvals. Figure 10-4 describes the Life Extension Strategy for CHN.

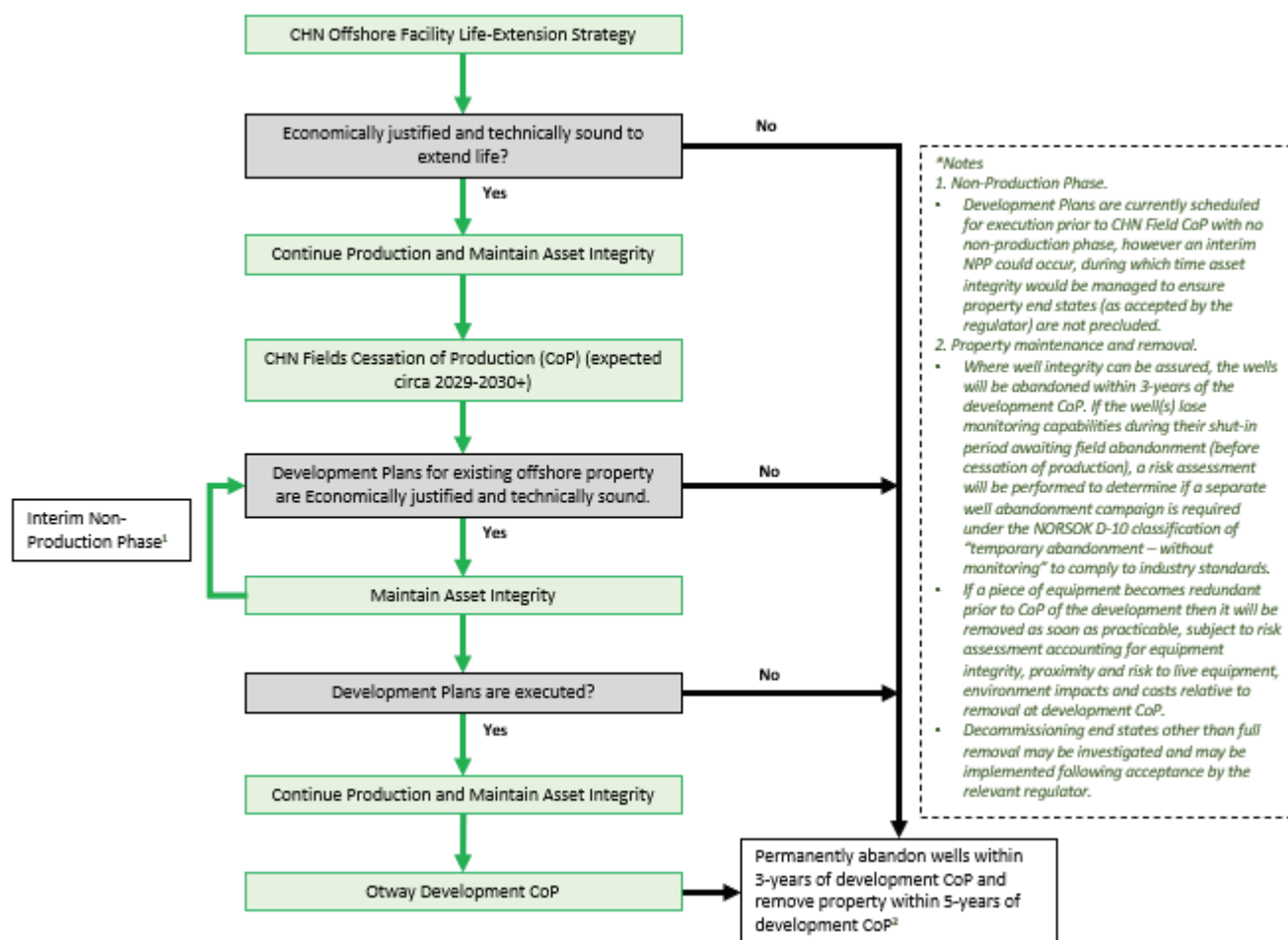


Figure 10-4: CHN Field Life Extension Strategy

10.3.2 Decommissioning Planning

Decommissioning of an asset involves permanently sealing wells, deconstruction and removal (base case) of all equipment, processing of materials, reagents, waste and infrastructure associated with the operations, and rehabilitation of the area.

Section 572(3) of the OPGGS Act (Cwth) requires titleholders to remove all equipment and other property in their title area (Cwth) that is neither used, nor to be used, in connection with operations. This obligation is ongoing and covers both the removal of equipment and property at the end of production and the removal of disused infrastructure at appropriate points throughout the life of an asset.

Cooper Energy's Decommissioning Protocol acknowledges legislative requirements and illustrates the company's management system for integrating decommissioning planning across operations. The Protocol outlines roles and responsibilities, along with requirements for decommissioning planning for onshore and offshore assets and associated financial provisions.

The objectives of the protocol are to:

- Define the requirement for decommissioning as part of the lifecycle of assets.

- Define the requirement for a decommissioning plan to be developed and maintained for each asset, or group of assets within an operational area. The decommissioning plan must consider, where practical, progressive decommissioning of assets when equipment is not intended to be returned to operation.
- Define the requirements for financial provisions to ensure decommissioning is completed in accordance with the decommissioning plan and that appropriate provisions are allocated for non-operated assets.

Options other than the complete removal of all property may be considered, in which case the decommissioning plan must demonstrate that the alternative delivers equal or better environmental outcomes compared to complete removal, and that the approach complies with all other legislative and regulatory requirements. Therefore, for the purposes of planning, full removal must be the base case until an alternative end-state is accepted by the regulator.

Where onshore treatment and disposal of wastes is to be undertaken as a component of decommissioning, management of this waste must be in accordance with the respective legislation of the States or Territory. Depending on the remaining operational life, this may require specific plans for:

- waste management; and
- licensing and regulation of waste transport, storage, treatment, resource recovery and disposal.

Based on the production outlook from the CHN fields, CoP and decommissioning execution could commence circa 2029-2030 (Section 3.5.1) without life extension and additional development (Section 10.3.1). Figure 10-5 outlines the timings associated with decommissioning planning and execution as aligned to CoP from all CHN fields, as aligned to NOPSEMA Section 572 Policy [N-00500-PL1903 A720369]. A Control Measure (CM8 Decommissioning Protocol) and associated performance standard and measurement criteria have been included within Section 9.



Figure 10-5: CHN Decommissioning Planning Strategy

10.4 Contractor Management

The Supply Chain and Procurement Management Standard (MS11) details Cooper Energy's contractor management system which provides a systematic approach for the selection and management of contractors to ensure any third party has the appropriate safety and environment management system and structures in place to achieve HSEC performance in accordance with Cooper Energy's expectations.

MS11 applies to sub-contractors, Third Party Contractors (TPCs) and suppliers conducting work at Cooper Energy sites or providing services to Cooper Energy. The Standard addresses operational HSEC performance of all contractors while working under a Cooper Energy contract or in an area of Cooper Energy responsibility or which may be covered under the HSEC Management System. The key HSEC steps in MS11 include:

- Planning – HSEC assessment of potential contractors, suppliers and / or TPCs
- Selection – submission and review of contractors and/or TPCs HSEC management data
- Implementation – onsite contractors and/or TPCs HSEC requirements including induction and training requirements.
- Monitoring, review and closeout – ongoing review of contractors and/or TPCs HSEC performance including evaluation at work handover.

With respect to vessel-based operations, Cooper Energy will undertake an on-hire inspection of the relevant vessel against EP requirements. Cooper Energy shall also provide primary contractors with this EP and EP

commitments register, inclusive of the EPOs and EPSs established in this plan. This is one of a number of means to ensure contractors are aware of, and comply with, EP requirements.

10.5 Organisational Structure, Roles and Responsibilities

As required by Regulation 22(3) of the OPGGS(E)R, and the Victorian OPGGSR Regulation 16(4), this section outlines the chain of command (Figure 10-6) and roles and responsibilities (Table 10-3: Cooper Energy Environmental Roles and Responsibilities) of personnel in relation to the implementation, management and review of this EP. The emergency response structure for the activity is detailed in the Offshore Victoria OPEP (VIC-ER-ERP-0001).

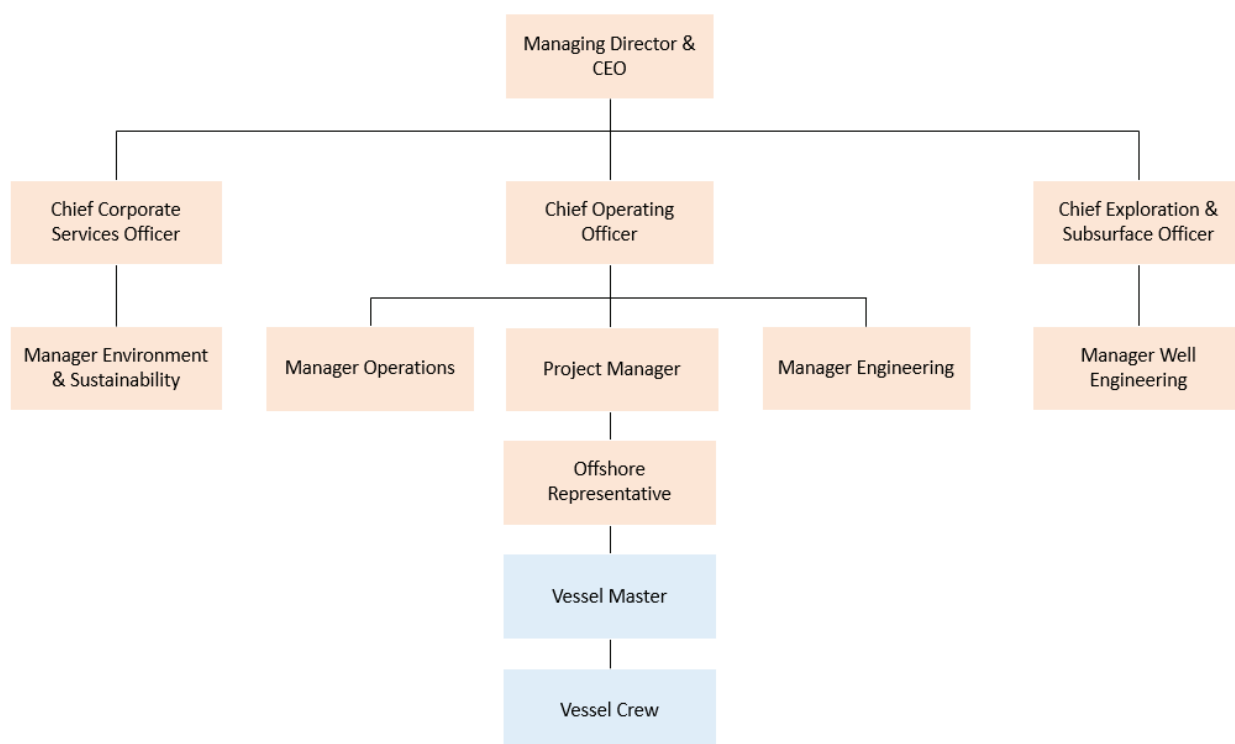


Figure 10-6: Cooper Energy Otway Offshore Operations Organisational Structure

Table 10-3: Cooper Energy Environmental Roles and Responsibilities

Role	Responsibilities
Cooper Energy	
Managing Director & CEO	The Managing Director is accountable for ensuring a framework has been established through which the Management System requirements will be met.
Chief Exploration & Subsurface Officer (project work)	Ensures: - Compliance with the Cooper Energy HSEC Policy and Management System. - Audits and inspections to verify HSEC and integrity performance are scheduled and undertaken. - Adequate resources are in place to meet the requirements within the EP and OPEP. - Adequate emergency response capability is in place. - Incidents and non-conformances are recorded, reported and investigated.
Chief Operating Officer	Ensures: - Compliance with the Cooper Energy HSEC Policy and Management System - Audits and inspections to verify HSEC and integrity performance are scheduled and undertaken

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Role	Responsibilities
	- Adequate resources are in place to meet the requirements within the EP and OPEP - Adequate emergency response capability is in place - Incidents and non-conformances are recorded, reported and investigated.
Chief Corporate Services Officer	Ensures: - Cooper Energy's Emergency Response preparedness is appropriate for the risks posed by the activity. - Emergency Response Training, Competency and Testing is commensurate to the risks associated with the current offshore activity.
Project Manager	Ensures: - Compliance with the Cooper Energy HSEC Policy - Compliance with this EP and controls implemented - Environmental approvals are in place for the activity to be undertaken - Contractor prequalification and qualification processes are undertaken - Personnel are inducted into this EP requirements and are aware of their environmental responsibilities - Response arrangements in the OPEP are in place and tested prior to the survey commencing - Environmentally relevant changes are assessed and approved by Cooper Energy - Environmental incidents are reported internally and externally, and investigations undertaken - Inspections and audits are undertaken - Actions from environmental audits and incidents are tracked to completion - Relevant Person activity pre-start and cessation notifications undertaken - Annual progress reporting in accordance with General Direction 824.
Manager Well Engineering	Ensures: - Compliance with relevant statutory and CEMS requirements. - Well integrity management plans are developed, maintained and implemented.
Manager Engineering	Ensures: - Compliance with relevant statutory and CEMS requirements. - Facility Integrity Management Plans are developed, maintained and implemented. - Integrity monitoring systems are maintained.
Manager Operations	Ensures in relation to respective area of responsibility (Operations / offshore IMR): - Compliance with the Cooper Energy HSEC Policy - Compliance with this EP and controls are implemented - Contractor prequalification and qualification processes are undertaken - Personnel are inducted with EP requirements and are aware of their environmental responsibilities - Response arrangements in the OPEP are in place and tested - Environmentally relevant changes are assessed and approved by Cooper Energy - Environmental incidents are reported internally and externally where required, and investigations undertaken
Manager Environment & Sustainability	Ensures: - Plans and processes are in place to comply with relevant statutory and CEMS requirements. - Specialist environment input and support is provided to implement the EP during the activity.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Role	Responsibilities
	- Environmental incidents are investigated in accordance with Cooper Energy requirements and learnings are disseminated appropriately. - An up-to-date knowledge of legal and statutory Environmental obligations relevant to the activity is maintained. - Environmental performance is monitored, evaluated and reported. - An assessment is undertaken of environmentally relevant changes that fall within the scope of the EP.
Offshore Representative	Ensures: - Compliance with relevant environmental legislative requirements, performance outcomes, control measures, performance standards, measurement criteria and requirements in the implementation strategy in this EP. - Inductions completed, and record of attendance maintained. - Chemicals that have the potential to be discharged to the marine environment are assessed and approved using the Cooper Energy's Offshore Chemical Assessment Procedure. - Environmentally relevant changes are assessed and approved by Cooper Energy. - Incidents are reported to the Cooper Energy Project Manager. - Monitoring and other records are collated and provided to the Cooper Energy Project Manager on completion of the program. - HSEC inspections undertaken throughout the offshore activity to ensure ongoing compliance with the EP requirements. - Corrective actions identified from incidents or inspections are implemented.
Contractors	
Vessel Master	Ensure compliance with relevant environmental legislative requirements, performance outcomes, control measures, performance standards, measurement criteria and requirements in the implementation strategy in this EP where relevant to their role.
Vessel Crews	Ensure compliance with relevant environmental legislative requirements, performance outcomes, control measures, performance standards, measurement criteria and requirements in the implementation strategy in this EP where relevant to their role.

10.6 Training and Awareness

OPGGS(E)R Regulation 22(4) and OPGGSR Regulation 16(5) require that the implementation strategy detail measures to ensure each employee or contractor working on, or in connection with, the activity is aware of their responsibilities in relation to this EP, including during emergencies or potential emergencies.

10.6.1 Cooper Energy Personnel

Cooper Energy personnel competency and training requirements are outlined in position descriptions and reviewed during the recruitment process. Competencies and training are initiated as defined in the Training and Development Procedure (CMS-HR-PCD-0004).

Personnel training records are maintained internally in accordance with MS06 Information and Systems Management.

10.6.2 Contractor personnel

Contractors engaged to work on the activity are assessed and engaged in accordance with the requirements of the MS11 Supply Chain and Procurement Management.

Competency of contractors is assessed as part of the pre-qualification and qualification process and requires contractors to define the competency and training requirements necessary to ensure that contractor personnel have the relevant knowledge and skills relevant to their role.

10.6.3 Environmental Induction

Cooper Energy and contractor personnel who work on the offshore activity (State and / or Cwth waters) will complete an induction. Cooper Energy Gas Plant Personnel shall also complete a facility induction.

The environmental component of the induction will include information as detailed in Table 10-4. Records of personnel that complete the induction will be maintained internally in accordance with MS06 Information and Systems Management.

Table 10-4: Environmental components to be included in Environmental Inductions

Component	Onshore	Offshore (State and / or Cwth waters)
	Gas Plant / Operations	Vessel / MODU
Description of the environmental sensitivities and conservation values of the operations area associated with the offshore or onshore facilities (as relevant). Information on the cultural links with elements of the environment that may be observed in the operational area, including whales and eels.	✓	✓
Controls to be implemented to ensure impacts and risks are ALARP and of an acceptable level.	✓	✓
Requirement to follow procedures and use risk assessments/job hazard assessments to identify environmental impacts and risks and appropriate controls.	✓	✓
Procedures for responding to and reporting environmental hazards or incidents.	✓	✓
Overview of emergency response and spill management procedures.	✓	✓
Fauna sighting, reporting and vessel interaction procedures.	✗	✓

10.7 Emergency Response

10.7.1 General Response

Cooper Energy manages emergencies from offshore Victoria activities in accordance with its Incident Management Plan (IMP) (COE-ER-ERP-0001). The purpose of the IMP is to provide the Cooper Energy Incident Management Team (IMT) with the necessary information to respond to an emergency affecting operations or business interruptions. The IMP:

- Describes the Emergency Management Process.
- Details the response process; and
- Lists the roles and responsibilities for the IMT members.
- Includes a communications management instructions outlining the types of communications which should occur and by whom within Cooper Energy. Cooper Energy maintains an Emergency Contacts Directory which lists Stakeholders relevant to different types of incident.

10.7.2 Oil Pollution Emergency Plan

In accordance Commonwealth OPGGS(E)R Regulation 22(8) (9) (12) and the Victorian OPGGS Regulation 17, the implementation strategy must include an Oil Pollution Emergency Plan (OPEP)/Emergency Response Plan (ERP) and arrangements for testing the response arrangements within these plans.

The Cooper Energy Offshore Victoria OPEP (VIC-ER-EMP-0001) and Offshore Victoria Operational and Scientific Monitoring Plan (OSMP) (VIC-ER-EMP-0002) provide for oil spill response and monitoring arrangements for this activity (State and / or Cwth waters). These documents are submitted with this EP.

Roles and responsibilities for maintaining oil spill response capability and preparedness, testing and review arrangements and oil spill response competency and training requirements are detailed in the OPEP. The

OPEP also includes Section 2.4 outlining Notification and Ongoing Consultation requirements in the event of a spill requiring OPEP activation.

Vessels will operate under the vessel's Shipboard Marine Pollution Emergency Plan (SMPEP) (or equivalent appropriate to class) or spill clean-up procedures to ensure timely response and effective management of any vessel-sourced oil spills to the marine environment. The SMPEP (or equivalent) is routinely tested. The SMPEP (or equivalent) is designed to ensure a rapid and appropriate response to any vessel oil spill and provides guidance on practical information that is required to undertake a rapid and effective response, and reporting procedures in the event of a spill.

10.7.3 Source Control Emergency Response Plan

A Source Control Emergency Response Plan (SCERP) provides for source control emergency response arrangements and preparedness for the activities. The SCERP aligns with industry and regulatory guidelines and provide for each of the key source control response strategies outlined in this EP.

Roles and responsibilities for maintaining source control response capability and preparedness, testing and review arrangements and source control response competency and training requirements are detailed in the SCERP and summarised in Table 10-5.

Table 10-5: SCERP Content

Response options	Topics addressed
Site Survey	• Arrangements for the provision of the Source Control IMT personnel (numbers, competency, capability for the duration of the response) • Arrangements for the provision of equipment and material supplies • Arrangements for equipment and personnel monitoring and tracking • Activation and mobilisation plans, including activation and expenditure authority and regulatory approval processes • Logistics plans and providers • SIMOPS planning process • Deployment and installation plans • Well kill and shut-in plans.
Debris Removal	
Intervention Pressure Control Equipment	
Relief Well Drilling	

10.8 Chemical Assessment and Selection

Cooper Energy's Offshore Chemical Assessment Procedure (CMS-EN-PCD-0004) requires that chemicals used offshore for a project and operations that will be or have the potential to be discharged to the environment are assessed and approved prior to use. This process is used with the aim of ensuring the lowest toxicity, most biodegradable and least bioaccumulative chemicals are selected which meet the technical requirements.

A summary of the evaluation process is detailed in Table 10-6.

Table 10-6 Cooper Energy Offshore Chemical Assessment Procedure Summary

Step	Evaluation	Input	Outcomes
1	Characterise proposed chemical.	Confirm the following: • Chemical name & supplier • Chemical Function/purpose • Formulation, where available • CAS number, where available • Eco toxicity, where available • Estimated use, dosage and discharge.	Proceed to Step 2

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Step	Evaluation	Input	Outcomes
2	Determine whether the chemical proposed is to be discharged to the marine environment.	Refer to EP to determine proximity to priority sensitivities.	Where chemical is to be used in an entirely closed loop system no further action is required.
			Where chemical is to be discharged - proceed to Step 3 .
3	Determine whether the chemical proposed is on the OSPAR PLONOR List.	Refer to OSPAR PLONOR List	Where the chemical is listed the chemical is approved at Step 3 . Where the chemical is not listed go to Step 4.
4	Use the OCNS Definitive Ranked Lists of Registered Substances to determine the risk banding.	Search the OCNS Definitive Ranked Lists of Registered Substances for the product name or equivalent branding. Always use the latest version.	Is the HQ Band "Gold" or "Silver," or OCNS Group "E" or "D"? If yes go to Step 5 . Where the chemical is not listed go to Step 6 .
5	Determine whether the chemical has a substitution or product warning.	OCNS Definitive Ranked Lists of Registered Substances or obtain from the current CEFAS template. Always use the latest version.	Where the chemical does not have a product or substitution warning no further action is required and chemical is approved.
			Where the chemical has a product or substitution warning go to Step 7 .
6	Assess the Ecotoxicity.	LC50 or EC50 concentrations for representative species; Octanol-water partition coefficient (Log Pow); and Biodegradation information (% biodegradation in 28 days).	Requires a Hazard Assessment and ALARP justification where: Toxicity = LC50 <100 mg/L or EC50 <100mg/L Bioaccumulation = Log Pow >3 Biodegradability <20%
7	Consider an alternative or complete ALARP justification.	Technical justification required to proceed with selected chemical.	Where there is no technical justification for the chemical it is not accepted for use. Where there is a technical justification an ALARP Justification must be approved by the Project Manager.

10.9 Invasive Marine Species Risk Assessment

Cooper Energy's Invasive Marine Species Risk Management Protocol (CMS-EN-PRO-0002) was developed to integrate Australian IMS prevention efforts into Cooper Energy's offshore operations. The procedure details the actions to be undertaken during the contracting phase for a vessel, MOU and submersible equipment (e.g., ROVs) for a project within a Cooper Energy operational area (as defined under the EP for the activity). The procedure incorporates key considerations from IMO (2011), Australian Government (2009) biofouling guidelines and Australian Biofouling Management Requirements (2022); the inputs, decision points and general flow of the of IMS risk management actions are shown in Figure 10-7.

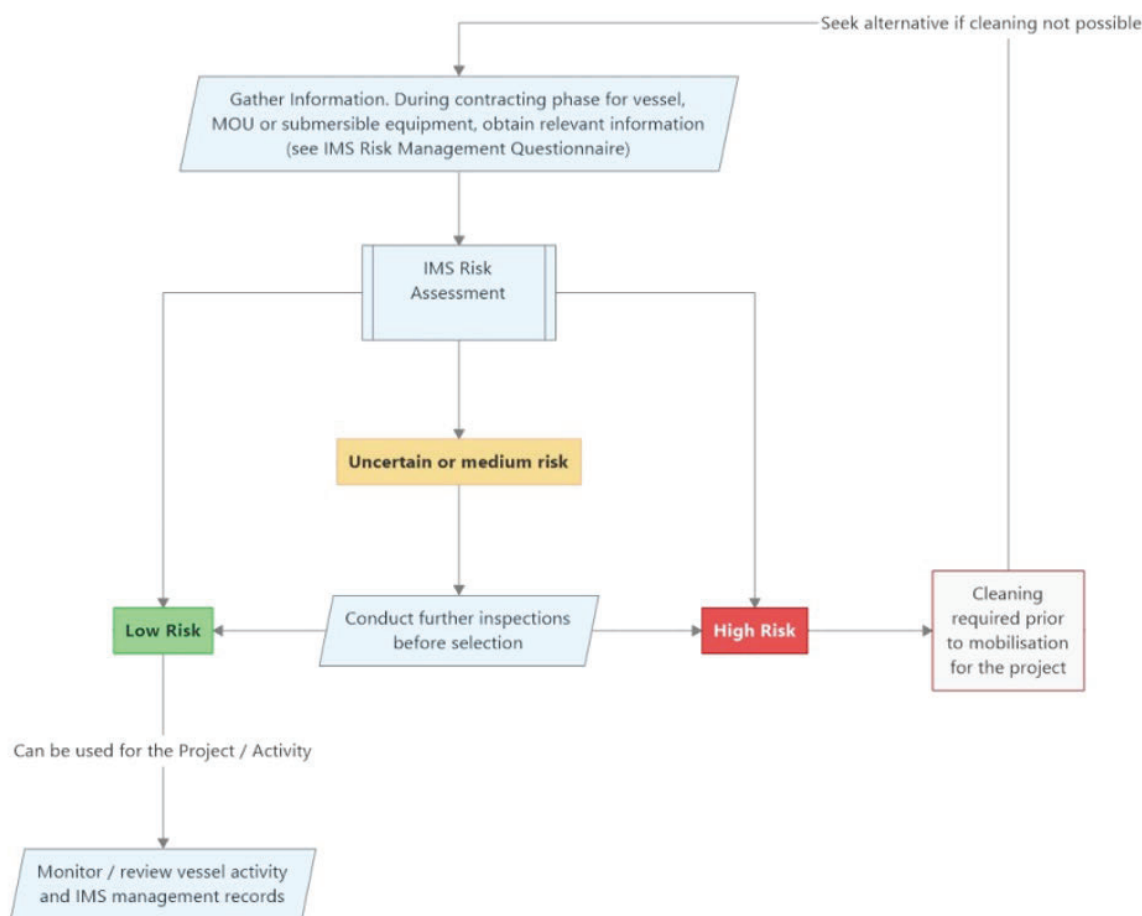


Figure 10-7: Cooper Energy IMS Risk Management Flow

10.10 Marine Mammal Risk Review and Management

Cooper Energy implements risk reviews prior to undertaking offshore campaigns. A risk review framework addressing campaign timing in relation to seasonal sensitivities (pygmy blue whale and southern right whale important behaviours) is shown in Figure 10-8.

DP Vessel Campaign Risk Review	
Purpose:	The review will seek to identify an environmental window where risks to endangered whales (from subsea noise) are avoided, where practicable, and in any case, ensure that risks are continually reduced to ALARP and are of an acceptable level.
Timing:	Prior to campaign activity commencing at the Otway offshore facilities. The risk review should be undertaken within the 6-months prior to the activity commencing.
Personnel:	This process will involve personnel who can supply relevant information to the activity and/or are the key decision makers for the project. This includes the Project Manager, Lead Engineer and Environment Specialist.
Risk Review Considerations	
Facility drivers	- Integrity management drivers, such as upcoming risk-based inspection, planned or urgent repairs. - Market operator drivers, such as mandated shutdown windows.
Campaign drivers	- Availability of vessel / offshore unit and services. Consider vessels with silent notation (if proposed by tenderer) - Work duration and schedule. - Safe operating limits (weather).
Seasonal environmental sensitivities	- Current conservation advice and actions - Current legislated exclusion zones and associated timing - Seasonal sensitivity of the species across the broader region utilising the Cooper energy Existing Environment, contemporary literature and available sightings databases such as the Atlas of Living Australia and SWIFFT.
Campaign risk events (subsea noise)	- Sound / source level of DP vessels selected for the campaign will be characterised. - Location of the campaign DP vessel activity and predicted noise contours against the expected location of sensitivities. - Campaign timing relative to seasonal sensitivity of both pygmy blue whales and southern right whales. - Campaign timing relative to other noise generating activities and potential for cumulative impacts.
Campaign risk controls	- Suitability of current control measures in the context of the campaign risk event review. - Previously discounted control measures - New techniques and technologies (e.g., for monitoring).

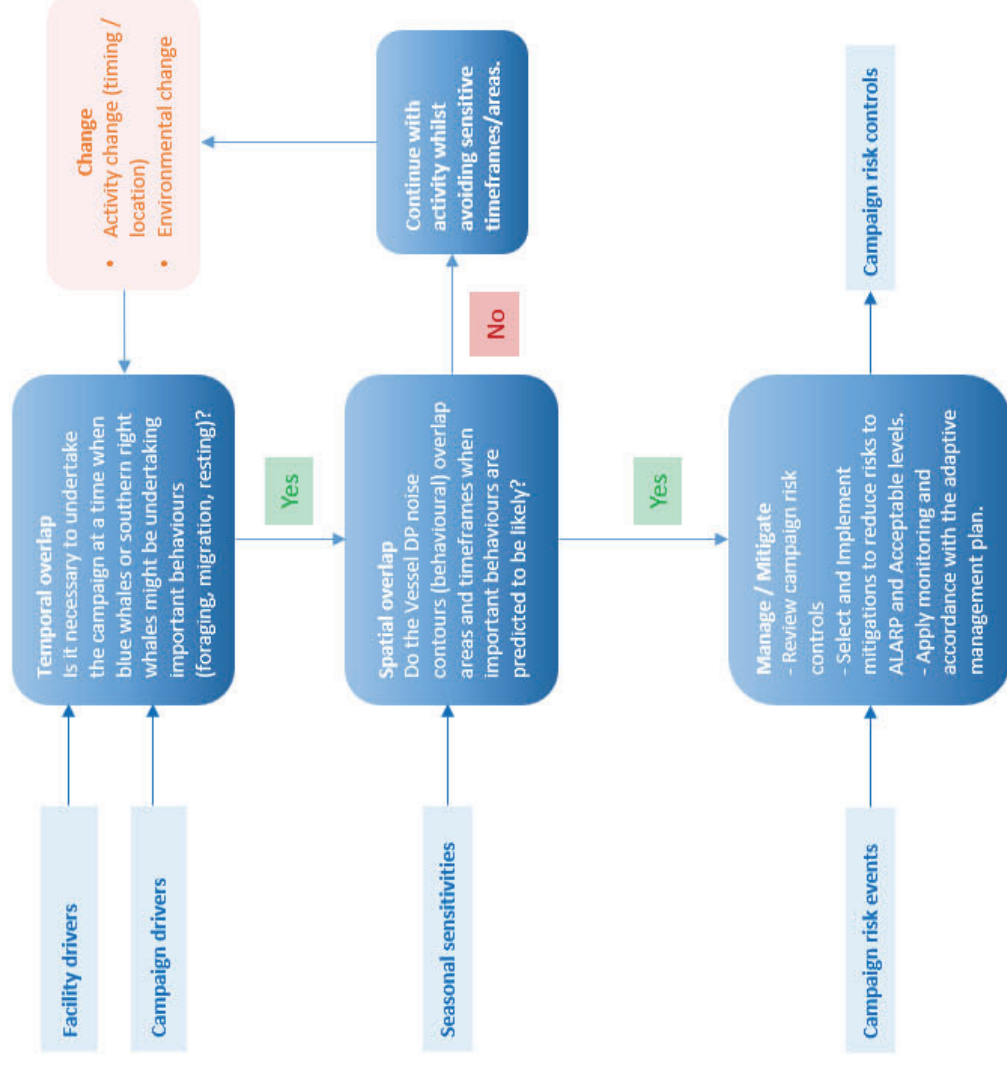


Figure 10-8: Campaign Risk Review Framework

10.11 Management of Change

MS08 Technical Management and Management of Change (MoC) General Protocol (CMS-TS-PRO-0002) describes the requirements for dealing with change management. The objective of the MoC process is to ensure that changes do not increase the risk of harm to people, assets or the environment; and to ensure impacts remain at an acceptable level. This includes:

- Deviation from established corporate processes.
- Changes to offshore operations and/or status of infrastructure
- Deviation from specified safe working practice or work instructions/procedures.
- Implementation of new systems
- Significant change of HSEC-critical personnel.

Environmentally relevant changes include:

- New activities, assets, equipment, processes or procedures proposed to be undertaken or implemented that have the potential to impact on the environment and have not been:
 - assessed for environmental impact previously, in accordance with the relevant standard
 - authorised in the existing management plans, procedures, work instructions or maintenance plans
- Proposed changes to activities, assets, equipment (including change of well or infrastructure status that may be undertaken under another EP), processes or procedures that have the potential to impact on the environment or interface with the environmental receptor.
- Changes to the existing environment including (but not limited to), fisheries, tourism and other commercial and recreational uses, any changes to protective matter requirements, and information which may be shared by traditional owners (e.g., through consultation).
- Changes to the requirements of an existing external approval (e.g., changes to conditions of environmental licences).
- Changes, updates or environmental performance improvement identified from incident investigations, emergency response activities or emergency response exercises, and annual audits.

For any MoC with identified environmental impacts or risks, an impact/risk assessment will be undertaken to ensure that impacts and risks from the change can be managed to meet the nominated EPOs set out in the accepted EP as well as be ALARP and of an acceptable level.

Depending on the nature of the change, an MOC may be completed for a single change (e.g., associated with a discrete offshore campaign), or for a series of changes (e.g., following annual EP review and update). In either case, where an MOC is raised, the change(s) are evaluated against Regulatory criteria (Section 10.11.3) and the EP revised and/or resubmitted where required.

10.11.1 Identifying Change

Environmentally relevant changes will be identified via activity and baseline reviews, after action reviews and on an ad-hoc basis. Reviews will seek to identify both internal and external changes which might result in deviations from the impact and risk profiles provided for within the accepted EP. The reviews include a number of elements:

- Regular review of new and upcoming regulatory and policy change via access to weekly alerts covering changes across legislation and guidelines relevant to Commonwealth and State Jurisdictions. This process also assists with the identification and evaluation of relevant government sustainability targets such as emissions reduction targets.
- Involvement with industry associations such as Australian Energy Producers (AEP) and Carbon Market Institute (CMI).
- Monthly review and reporting of recordable incidents; this includes investigation of incidents and may initiate the change assessment process depending on the nature of the incident.
- Annual EP audits (refer to Section 10.13) which are subsequently tracked to closure via Synergi.

- Annual EP review and update; this process involves:
 - Update of relevant legislation, integrating changes identified via the regular review process (where those reviews have not already triggered an interim update).
 - Check of environmental baseline via review of publicly available government databases including PMST search application and UCH database.
 - Inclusion of additional or updated environmental baseline relevant to the EP, from sources such as EPBC management plans.
- Pre-activity reviews. During the planning phase for offshore vessel activities, the campaign components are reviewed in the context of the accepted environment plan to ensure the activities and associated impacts and are provided for.
- After-activity reviews or lessons learned reviews following offshore campaigns; these reviews provide a means to identify, share and act upon opportunities for improvement in relation to the management of impacts and risks.
- Engagement with relevant persons (refer to Section 11).

Environmentally relevant changes identified through these processes are recorded and tracked through to integration within relevant documents (e.g., plans, protocols etc.) and implementation within the business.

The regulatory requirement to revise and resubmit an EP is described in Section 10.11.3.

10.11.2 Changes to Titleholders and Nominated Liaison Person

Section 1.5 details the titleholders and nominated liaison person and contact details. Any change in these details is required to be notified to NOPSEMA and the DEECA as soon as possible.

10.11.3 Revisions to the EP

In the event that the proposed change introduces a significant new environmental impact or risk, results in a significant increase to an existing risk, or through a cumulative effect of a series of changes there is a significant increase in environmental impact or risk, this EP will be revised for re-submission to NOPSEMA and DEECA in line with the MOC process described herein and as shown in Figure 10-9.

Where a change results in the EP being updated, the change/s are to be logged within the document revision description (Appendix 1).

In addition, the titleholder is obligated to ensure that all specific activities, tasks or actions required to complete the activity are provided for in the EP. Regulation 39(1) of the OPGGS(E)R and Regulation 20(2) of the OPGGS Regulations (Vic) require that where there is a significant modification or new stage of the activity (that is, change to the spatial or temporal extent of the activity) a proposed revision of the EP will be submitted to NOPSEMA and DEECA.

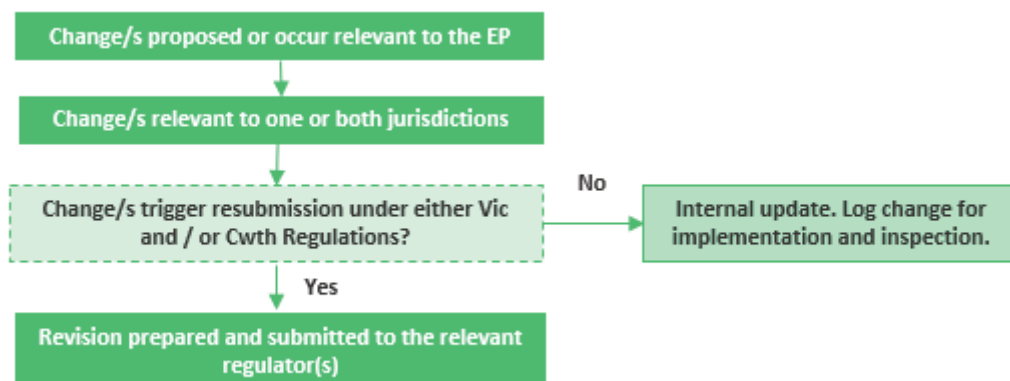


Figure 10-9: EP Regulator Re-submission Process

10.12 Incident Reporting and Recording

MS10 Incident and Crisis Management, Incident and Crisis Management Protocol (CMS-ER-PRO-0002) and Incident Investigation and Reporting Protocol (CMS-ER-PRO-0001) provide for a systematic method of incident reporting and investigation and a process for monitoring close out of preventative actions.

The incident reporting and investigation documentation defines the:

- Method to record, report, investigate and analyse accidents and incidents.
- Legal reporting requirements to the regulators within mandatory reporting timeframes.
- Process for escalating reports to Cooper Energy senior management and the Cooper Energy Board.
- Methodology for determining root cause.
- Responsible persons to undertake investigation; and
- Classification and analysis of incidents.

Any complaints received from third parties relevant to the activities are managed in accordance with the Cooper Energy Incident Investigation and Reporting Protocol (CMS-ER-PRO-0001). If complaints are received, they are recorded in Cooper Energy's incident management system (Synergi) with appropriate corrective actions assigned. Where appropriate, feedback on corrective actions is also provided to the complainant. Where complaints may relate to fisheries, such as an equipment damage claim, this is managed in accordance with both CMS-ER-PRO-0001 and the Fisheries Damages Protocol.

Notification and reporting requirements for environmental incidents to external agencies are listed in Table 10-7. Notification and reporting requirements for oil spills (Level 2/3) are detailed in the OPEP.

Table 10-7: External Incident Reporting Requirements

Incident Type	Description	Requirement	Timing	Contact
Recordable Incident	OPGGS(E)R: An incident arising from the activity that breaches an EPO or EPS in the EP that applies to the activity that is not a reportable incident.	As a minimum, the written monthly recordable report must include a description of: - all recordable incidents occurred during the calendar month - all material facts and circumstances concerning the incidents that the operator knows or is able to reasonably find out - corrective actions taken to avoid or mitigate any adverse environmental impacts of the incident - corrective actions that have been taken, or maybe taken, to prevent a repeat of similar incidents occurring.	Before the 15th day of the following calendar month.	Written Notification: NOPSEMA - submissions@nopsema.gov.au DEECA -operational.reports@ecodev.vic.gov.au
Reportable Incident	OPGGS(E)R: An incident arising from the activity that has caused, or has the potential to cause, moderate to significant environmental damage. OPGGSR (Victoria): An incident arising from the activity that has caused, or has the potential to cause: - moderate to catastrophic environmental consequences - a breach of, or noncompliance with the Victorian OPGGS Act 2010; Victorian OPGGSR 2011 (Chapter 2–Environment); or EPOs set out in the EP. For Cooper Energy, reportable incidents include, but are not limited to, those that have been identified through the risk assessment process as having an inherent impact consequence of ‘moderate’, ‘major’ or ‘critical’, or at a minimum, the following incidents: - A level 2/3 spill incident; and - IMS Introduction.	Verbal Notification: The notification must contain: - all material fact and circumstances concerning the incident - any action taken to avoid or mitigate the adverse environmental impact of the incident - the corrective action that has been taken or is proposed to be taken to stop control or remedy the portable incident. This must be followed by a written record of notification as soon as possible after notification.	State Waters Within 2 hours of becoming aware of the incident	Verbal: DEECA - Phone 0419597010 Written Notification: DEECA - ERChiefInspector@ecodev.vic.gov.au
			Commonwealth Waters Within 3 days of notification of the incident	Verbal: NOPSEMA – Phone 1300 674 472 Written Notification: NOPSEMA - submissions@nopsema.gov.au NOPTA – reporting @nopta.gov.au
		Written Notification: Verbal notification of a reportable incident to the regulator must be followed by a written report. As a minimum, the written incident report will include: - the incident and all material facts and circumstances concerning the incident - actions taken to avoid or mitigate any adverse environmental impacts - the corrective actions that have been taken, or may be taken, to prevent a recurrence of the incident - the action that has been taken or is proposed to be taken to prevent a similar incident occurring in the future.	State Waters Within 3 days of notification of the incident	DEECA - ERChiefInspector@ecodev.vic.gov.au
			Commonwealth Waters Within 3 days of notification of the incident	NOPSEMA - submissions@nopsema.gov.au
		Written reports to be submitted to National Offshore Petroleum Titles Administrator (NOPTA) and DEECA (for incidents in Commonwealth waters).	Within 7 days of written report submission to NOPSEMA	NOPTA – reporting @nopta.gov.au

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Reportable incident - in the event an AMP may be exposed to hydrocarbons	Notification must be provided to the Director of National Parks and include: • titleholder details • time and location of the incident (including name of marine park likely to be affected) • proposed response arrangement • confirmation of providing access to relevant monitoring and evaluation reports when available • contact details for the response coordinator.	As soon as possible	Marine Park Compliance Duty Officer – 0419 293 465
Reportable Incident – Invasive Marine Species	Suspected or confirmed Invasive Marine Species Introduction.	As soon as possible	DEECA on 0419597010 or ERRChiefInspector@ecodev.vic.gov.au.
Reportable Incident - Injury or Death to Fauna	Incidents of injury or death to native fauna including whales and dolphins. https://www.wildlife.vic.gov.au/wildlife-emergencies/whale-and-dolphin-emergencies https://www.zoo.org.au/fighting-extinction/marine-response-unit/	As soon as possible	DEECA Whale & Dolphin Emergency Hotline - 1300 136 017. Seals, Penguins or Marine Turtles Zoo Victoria Marine Response Unit – 1300 245 678.
	Impacts to MNES, specifically injury to or death of EPBC Act-listed species. https://www.environment.gov.au/biodiversity/threatened/listed-species-and-ecological-communities-notification	Within 7 days	DCCEEW Phone: +61 2 6274 1111 Email: EPBC.Permits@environment.gov.au
	Vessel strike with cetacean.	Within 72 hours of incident.	DCCEEW – National Ship Strike Database https://data.marinemammals.gov.au/report/shipstrike

10.13 Environmental Performance Monitoring and Reporting

Cooper Energy implements a range of measures aiming to ensure that for the duration of the activity:

- The environmental impacts and risks of the activity continue to be identified and reduced to a level that is ALARP and acceptable.
- Control measures detailed in the EP are effective in reducing the environmental impacts and risks of the activity to ALARP and an acceptable level; and
- Environmental performance outcomes and standards set out in the EP are being met.

These measures are integrated throughout this EP and key assurance processes are summarised in Table 10-8. Roles and responsibilities are detailed in Table 10-3.

Table 10-8: Summary of Assurance Processes

Process	Frequency
Change management reviews	See Section 10.11
Tracking of Emissions and Discharges	See Section 10.13.1
Audit and Inspection	See Section 10.13.5
Management of non-conformance	See Section 10.13.6

10.13.1 Emissions and Discharges

Emissions and discharge monitoring and records required for operations and vessel-based activities are detailed in

Table 10-9. Copies of emission and discharge records will be retained in accordance with Section 10.14.

Quantitative monitoring, record-keeping and reporting of emissions and discharges is undertaken for all activities within the scope of this EP. As activities are undertaken across different jurisdictions, data reporting is undertaken in accordance with the requirements of the particular jurisdiction.

Record logs of vessel discharges are retained in accordance with MARPOL.

Table 10-9: Emissions and Discharge Monitoring

Aspect	Monitoring	Monitoring Frequency	Records
Routine Operations			
Control Fluids used for valve actuation at the wells	Volume	Ongoing	Record of use / consumption
Fuel gas, flare, vent and fugitive GHG emissions at onshore Gas Plant	Volume (by activity/facility)	Various	Reconciled emissions inventory (annual). NGERS Reporting.
Leaks, Spills and accidental releases	Product type	Upon occurrence	Incident report by event
Inspection, Maintenance and Repair (offshore vessel campaign)			
Vessel Discharges	Volume: - Bilge Discharges - Sewage - Putrescibles	By activity	Vessel reports
Waste	Waste Transfers Waste Type	By activity	Waste transfer receipts

Aspect	Monitoring	Monitoring Frequency	Records
Project chemical discharges to marine environment	Chemical name Chemical type Discharge volume Discharge location	By activity	End of campaign report
GHG emissions (from fuel use)	Volume (Fuel usage) converted to CO ₂ e ⁷	By activity	Daily Reports of fuel use, Reconciled emissions inventory (annual).
Spills and accidental releases or losses overboard.	Nature of the discharge material Volume / Amount	Upon occurrence	Incident Report by event Also see Section 10.12.

10.13.2 Activity Commencement and Cessation Notifications

Activity notification requirements are detailed in Section 11 (Ongoing Consultation and Notifications).

10.13.3 Annual Performance Report

As required by Regulation 51 OPGGS(E) Regulations (Cwlth) and Regulation 31A OPGGS Regulations (Vic), Cooper Energy will submit an annual EP performance report to the regulator (NOPSEMA and DEECA). This report will provide sufficient detail to enable the Regulator to determine whether the environmental performance outcomes and standards in the EP have been met.

The report will be submitted annually no later than 31 December.

10.13.4 Fauna Reporting

Cetacean observation data will be submitted to the DCCEEW (Cwth).

Data will be reported within 3 months of the completion of an offshore activity.

Observation data in relation to culturally significant species will be made available to First Nations Groups where requested.

10.13.5 Audit and Inspection

Environmental performance of offshore operations and activities will be audited and reviewed in several ways to ensure that:

- Environmental performance standards to achieve the EPOs are being implemented and reviewed;
- Potential non-compliances and opportunities for continuous improvement are identified; and
- Environmental monitoring requirements are being met.

Non-conformance with the environmental performance standards outlined in this EP will be managed as per Section 10.13.6.

Opportunities for improvement or non-compliances noted will be communicated to relevant personnel at the time of the review/inspection/audit to ensure adequate time to implement corrective actions. The findings and recommendations of inspections or audits will be documented and distributed to relevant personnel for comment, and any actions tracked until completion.

10.13.5.1 EP Compliance

The following assurance arrangements will be undertaken:

- Annual Audit of the performance outcomes and performance standards contained in the EP and the requirements detailed in the implementation strategy, appropriate to the activities undertaken in the previous reporting period. This audit will be used to inform the annual EP performance report submitted to NOPSEMA and DEECA. Any environmentally relevant changes and opportunities to improve

⁷Using applicable national or international emissions accounting factors

environmental performance will be assessed as described in Section 10.11, and incorporated into EP revisions as required,

10.13.5.2 Offshore Vessel Activities

The following arrangements review the environmental performance of offshore vessel activities (State and / or Cwth waters):

- A premobilisation inspection will be undertaken for offshore vessels to ensure they will meet the requirements of the EP; and
- HSEC inspections will be undertaken throughout the offshore activity on a nominal weekly basis to ensure ongoing compliance with relevant EP requirements. The scope of the inspections will include (but is not limited to):
 - Vessel spill readiness (i.e., provision spill kits and drills in accordance with vessel SOPEP/SMPEP).
 - Waste management in accordance with EP, EPO and EPSs.
 - Chemical Inventory checks to ensure campaign chemicals are accepted via the Offshore Chemical Assessment Procedure.
 - Maintenance checks for equipment identified within an EP EPS (e.g., oily water separator).

Non-compliance and improvement opportunities will be communicated to Cooper Energy HSEC onshore for advice, tracking and reporting in accordance with Section 10.13.6.

10.13.6 Management of Non-conformance

In response to any EP and environmental audit and inspection non-compliances, corrective actions will be implemented and tracked to completion as per the Incident Investigation and Reporting Protocol (CMS-ER-PRO-0001).

Corrective actions will specify the remedial action required to fix the breach and prevent its reoccurrence and is delegated to the person deemed most appropriate to fulfil the action. The action is closed out only when verified by the appropriate Manager and signed off. This process is maintained through the Cooper Energy corrective action tracking system.

Where more immediacy is required, non-compliances will be communicated to relevant personnel and responded to as soon as possible. Where relevant the results of these actions will be communicated to the offshore crew during daily toolbox meetings or at daily or weekly HSEC meetings.

Cooper Energy will carry forward any non-compliance items for consideration in future operations to assist with continuous improvement in environmental management controls and performance outcomes.

10.14 Records Management

In accordance with the Regulation 52 of the OPGGS(E) Regulations (Cwth) and Regulation 32 of the OPGGS Regulations (Vic), Cooper Energy will store and maintain documents or records relevant to the EP in accordance with the Technical Information Management Procedure (CMS-IM-PCD-0002).

11 Consultation

11.1 Summary

Cooper Energy is committed to engaging with relevant persons (as that term is defined in regulation 25 of the OPGGS(E)R, and 13F of the OPGGSR) in a transparent, genuine and meaningful way, through our consultation process. We recognise that our consultation process must be robust and systematic, so that it is consistently and demonstrably compliant with the applicable regulatory requirements. Cooper Energy's consultation process sought to acknowledge that any consultation process must also have a degree of adaptability, as it is a "real world" activity in a dynamic environment, that will vary depending on the nature of the authority, persons or organisations to be consulted.

This section sets out how Cooper Energy has carried out consultation for the Otway Offshore Operations EP in accordance with the OPGGS(E)R and the OPGGSR, having regard to the published guidance materials from NOPSEMA.

The design of our consultation process ensured that relevant persons were identified and provided sufficient information and a reasonable time period to make an informed assessment of the potential impacts of our EP activities. Given the broad range and geographical spread of relevant persons, sufficient information was provided via different forms and engagement methods including meetings, calls, emails and a website.

Overall, there were limited enquiries, claims or objections raised in the consultation process by relevant persons. For the limited concerns raised, Cooper Energy carefully assessed the merits of the claims or objections, and (where appropriate) adopted new or changed control measures to reduce the relevant risks or impacts to an acceptable level and ALARP, and consistent with the principles of ecologically sustainable development. This is described further at section 11.2.4.

This EP clearly demonstrates that Cooper Energy's consultation process has met or exceeded the requirements of the OPGGS(E)R and the OPGGSR. Should Cooper Energy receive any further concerns or feedback regarding this EP after the EP has been accepted by NOPSEMA and DEECA, these will be managed as described in section 11.2.5.

11.2 Regulatory Compliance – Summary of Requirements

Regulatory compliance has been achieved and this EP demonstrates that:

- per **regulation 25(1) of the OPGGS(E)R** and **13F(1) of OPGGSR**, identification of, and consultation with, relevant persons has occurred (see sections 11.2.1.1 and 11.2.1.2).
- per **regulation 25(2) of the OPGGS(E)R** and **13F(2) of OPGGSR**, sufficient information has been provided to relevant persons to enable them to make an informed assessment of the possible consequences of the activity on their functions, interests or activities (see section 11.2.1.4);
- per **regulation 25(3) of the OPGGS(E)R** and **13F(3) of OPGGSR**, a reasonable period for consultation has been provided to each relevant person to consider the information, make their assessment and provide feedback if they wish to do so (see section 11.2.1.5);
- per **regulation 25(4) of the OPGGS(E)R**, relevant persons have been advised that they may request that particular information provided during consultation not be published, and ensuring that such information is not published (see section 11.2.1.6); and
- based on the information and feedback acquired through the consultation process, appropriate measures have been adopted to reduce the impacts and risks associated with the activity (see from section 11.2.4).

This EP sets out the following information pursuant to regulation 24(b) OPGGS(E)R and 19(b) OPGGSR (see section 11.2.4):

- a summary of each response made by a relevant person;
- our assessment of the merits of any objection or claim about the adverse impacts of any activity to which the EP relates;
- our response, or proposed response, to each objection or claim;
- any measures adopted as a result of consultation; and
- copies of the full text of any responses given by a relevant person.

Cooper Energy continuously reviews and improves its policies and procedures, to reflect changes in law, regulator guidelines, judicial decisions and industry standards. Additionally, following the appeal decision of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193, Cooper Energy has conducted an extensive review of its methodology for identifying and consulting with relevant persons, for the purposes of preparing this EP.

The following guidelines were also considered in planning and delivering our consultation process:

- GL2086 – Consultation in the course of preparing an environment plan – May 2024
- GN1344 – Environment plan content requirements – January 2024
- GN1488 – Oil pollution risk management
- GN1785 – Petroleum activities and Australian Marine Parks – January 2024
- GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2024

Table 11-1: OPGGS(E) and OPGGSR Regulation Consultation Compliance

OPGGS(E)R Regulation	NOPSEMA Guideline	How requirements were met
34 Criteria for acceptance of environment plan <i>Regulation 34 provides that the criteria for acceptance of an environment plan are that the plan demonstrates that:</i> <i>(g)(i) the titleholder has carried out the consultations required by section 25; and</i> <i>(g)(ii) the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate</i>	• Regulation 25 establishes a duty on titleholders to carry out consultation in the course of preparing an environment plan. • In order to accept an environment plan under regulation 33, NOPSEMA must be reasonably satisfied (as per regulation 34) that the environment plan demonstrates the duty (to carry out consultation with relevant persons required by regulation 25) has been discharged and that the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate. • Consultation should be a genuine and meaningful two-way dialogue in which relevant persons are given sufficient information and time to allow them to make an informed assessment of the possible consequences of the activity on their functions, interests or activities • The consultation process used for different activities may vary depending on a range of factors, certain key principles should be evident in the environment plan.	This EP demonstrates that these requirements were met: • The below summary rows setting out how the consultations required by regulation 25 were carried out; and • Adopting measures as a result of consultation: Report on Consultation in section 11.2.4 Relevant State OPGGSR: 13D and 13F
25(1) Consultation with relevant authorities, persons and organisations etc <i>In the course of preparing an environment plan (including a revised environment plan referred to in Division 5) a titleholder must consult each of the following (a relevant person):</i>	Titleholders are required to identify and consult with each authority, person or organisation who falls within the categories of relevant persons set out in regulation 25. Titleholders must clearly identify in their environment plan who is a relevant person and the rationale the titleholder has used to determine who they consider falls within that definition. Environment plans should set out the processes that have been applied to identifying and determining who are relevant persons, as well as the processes undertaken for consultation. Authorities, persons and organisations are to be identified on a case-by-case basis. Factors such as the nature of the activity, the environment in which the activity is being undertaken and the possible impacts and risks of the activity should be taken	This EP sets out how Cooper Energy satisfied to requirements of this regulation in section 11.2.1.1. This section identifies each relevant person identified for the purpose of this EP and the methodology adopted to identify such relevant persons. Relevant State OPGGSR: 13F

(a) <i>each Commonwealth, State or Northern Territory agency or authority to which the activities to be carried out under the environment plan may be relevant;</i> (b) <i>if the plan relates to activities in the offshore area of a State—the Department of the responsible State Minister;</i> (c) <i>if the plan relates to activities in the Principal Northern Territory offshore area—the Department of the responsible Northern Territory Minister;</i> (d) <i>a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan;</i> (e) <i>any other person or organisation that the titleholder considers relevant.</i>	into account when determining whether the activity may be relevant to authorities, or determining who has functions, interests or activities that may be affected. Regulation 25, like most statutory consultation provisions, imposes an obligation that must be capable of practicable and reasonable discharge by the titleholder. It also involves ‘some decisional choice’ that the titleholder must make in identifying relevant persons and in how the consultation is undertaken. Processes for the identification of relevant persons must provide for sufficiently broad capture of ascertainable persons and organisations who may have their functions, interests or activities affected or that may be affected by the activity. Publication in appropriate media forms may be a reasonable tool to assist in the identification of relevant persons and inform the delivery of more targeted notices to potentially relevant persons. It is recognised that in any community consultation there will inevitably be persons within a group who could not participate for various reasons, however the absence of their participation would not invalidate the process provided reasonable efforts were made to identify the relevant persons and to consult with them. The process should include reference to multiple sources of information, such as publicly available materials, review of databases and registers, published guidance, previous history, as well as advice from authorities and other relevant persons. In some cases, relevant persons have developed guidance detailing their functions, interests or activities and how and when they wish to be consulted on activities. Titleholders should take this guidance into account in developing consultation processes with relevant persons. Titleholders may also consider how they can create awareness of their activities to encourage potentially relevant persons to make themselves known to the titleholder.	
25(2) Consultation with relevant authorities, persons and organisations etc <i>For the purpose of the consultation, the titleholder must give each relevant person sufficient information to allow the relevant person to make an informed</i>	Information provided must be sufficient to allow an informed assessment of the possible consequences of the activity on the functions, interests or activities of the relevant person. Again, the titleholder has a “decisional choice” to make in how information will be given to allow the “relevant person” to make the assessment contemplated by regulation 25(2). Titleholders should consider the functions, interests or activities of relevant persons and the impacts and risks that affect them when determining information requirements.	Section 11.2.1.4 sets out the methodology adopted to preparing and presenting sufficient information to relevant persons, along with the different types of information prepared for relevant persons. Relevant State OPGSR: 13F

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

assessment of the possible consequences of the activity on the functions, interests or activities of the relevant person.	The environment plan must demonstrate that the duty (to carry out consultation with relevant persons) has been discharged and that the consultation provided sufficient information about the environment and impacts on the environment. The level of information necessary is likely to vary for different relevant persons and may depend on the degree to which a relevant person is affected. Different consultation processes may be required for relevant persons and organisations depending on information requirements. What constitutes sufficient information as part of a consultation processes may differ depending on the relevant person(s) and the environment plan should demonstrate that the process was suited to the type of relevant person. Generic, targeted electronic mailouts or links to a webpage may not be sufficient. Information should be in a form that is readily accessible and appropriate for the relevant person being consulted. Materials provided may include written forms, pictorial or other graphics, verbal briefings or presentations, and the use of other technologies. Information may well need to be provided in an iterative manner, as finer detail and precision is developed through the consultation process. Titleholders are encouraged to discuss expectations around the type and level of detail of information required with relevant persons early when commencing consultation.	Section 11.2.1.5 sets out Cooper Energy's approach to ensuring that relevant persons were provided with reasonable periods for consultation. Relevant State OPGSR: 13F
25(3) Consultation with relevant authorities, persons and organisations etc <i>The titleholder must allow a relevant person a reasonable period for the consultation.</i>	Titleholders must provide a "reasonable period" for the relevant person to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities and so they are able to respond with any concerns. The nature, scale and complexity of an activity, as well as the extent and severity of potential impacts and risks on a relevant person's functions, interests or activities may inform what makes a reasonable period for consultation. Relevant persons may have also provided the titleholder with their views of what constitutes reasonable timeframes, their availability and or accessibility issues that should be taken into account. Therefore, what is a reasonable period for consultation should be considered on a case-by-case basis.	See section 11.2.1.6
25(4) Consultation with relevant authorities, persons and organisations etc	-	See section 11.2.1.6

<i>The titleholder must tell each relevant person the titleholder consults that:</i> <i>(a) the relevant person may request that particular information the relevant person provides in the consultation not be published; and</i> <i>(b) information subject to such a request is not to be published under this Part.</i>		
24 Other information in environment plan <i>The environment plan must contain the following:</i> <i>(a) a statement of the titleholder's corporate environmental policy;</i> <i>(b) a report on all consultations under section 25 of any relevant person by the titleholder, that contains:</i> <i>(i) a summary of each response made by a relevant person; and</i>	The consultation process should be documented within the environment plan through the titleholder report on consultation and the sensitive information report. Under regulation 24(b) of the Environment Regulations, the environment plan must contain a report on the consultation which provides: i. a summary of each response made by a relevant person; ii. an assessment of the merits of any objection or claim about adverse impact of each activity to which the environment plan relates; iii. a statement of the titleholder's response, or proposed response, if any, to each objection or claim; and iv. a copy of the full text of any response by a relevant person. NOPSEMA expects the environment plan to also provide descriptions of the consultation processes and the rationale used to determine who and how to consult with relevant persons, including the approach to provision of sufficient information and how a reasonable period for the consultation was determined. This will assist to provide a basis for NOPSEMA to form a reasonable satisfaction view that the titleholder has carried out the consultations required by regulation 25.	See section 11.2.4 for the Report on Consultation Relevant State OPGSR: 19

<i>(ii) an assessment of the merits of any objection or claim about the adverse impact of each activity to which the environment plan relates; and</i> <i>(iii) a statement of the titleholder's response, or proposed response, if any, to each objection or claim; and</i> <i>(iv) a copy of the full text of any response by a relevant person;</i> <i>(c) details of all reportable incidents in relation to the proposed activity.</i>	The consultation process should also assist the titleholder to meet its obligation under section 280 or 460 of the Offshore Petroleum and Greenhouse Gas Storage Act 2006 which requires that it must carry out the petroleum or greenhouse gas activity respectively in a manner that does not interfere with navigation, fishing, conservation of resources of the sea and seabed, other offshore electricity infrastructure and petroleum activities, and the enjoyment of native title rights and interests (within the meaning of the Native Title Act 1993) to a greater extent than is necessary for the reasonable exercise of the titleholder's rights and obligations. Titleholders should ensure that a summary containing the main matters raised in each response made by a relevant person is included in the consultation report. The report on consultation should not include the full text or extracts of the full text of any response by a relevant person. Under regulation 26(8), this information must be contained in the sensitive information part of the environment plan and not anywhere else in the plan. The report on consultation should also include clear and precise identification of claims and objections presented, an assessment of the merit of each objection or claim with sufficient rationale provided to support that assessment, and a demonstration of the suitability of any measures adopted as a result of the consultation. Full text (source) records must be provided to verify the accuracy of the summary of the consultation. NOPSEMA interprets the term "full text" to mean an unedited version of the correspondence received without redacted or modified text. Titleholders will need to document in written form all communications undertaken between themselves and relevant persons. This may require documenting the minutes of meetings, undertaking written communications wherever practicable and requesting that responses from relevant persons be provided in writing where practical.	22(15) and (16) Implementation strategy for environment plan <i>(15) The implementation strategy must provide for appropriate consultation with:</i>	Demonstrating in an environment plan that ongoing consultation is a part of a titleholder's implementation strategy as required by regulation 22(15), is separate to demonstrating that requirements for relevant persons consultation outlined in this guideline have been met.	See section 11.2.5 for the Implementation Strategy for the environmental plan Relevant State OPGSR: 16(8) and 9

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

<i>(a) relevant authorities of the Commonwealth, a State or a Territory; and</i> <i>(b) other relevant interested persons or organisations.</i> <i>(16) The implementation strategy must comply with the Act, this instrument, any other regulations made under the Act, and any other environmental legislation applying to the activity.</i>		

11.2.1 Consultation with Relevant Authorities, Persons and Organisations - Regulation 25 OPGGS(E)R (Cwth), Regulation 13F OPGGSR (Vic)

11.2.1.1 Identifying Relevant Persons – 25(1)

In properly discharging our consultation obligations for identifying relevant persons under regulation 25(1)(a), (b), (c), (d) and (e) of the OPGGS(E)R, and Regulation 13F of the OPGGSR, we have adopted a methodology that is reasonable, pragmatic and factors in the practical aspects of the consultation process, while remaining compliant with applicable law. This methodology is consistent with NOPSEMA's Guidelines and demonstrates Cooper Energy's cognisance of:

- the planned activities; and
the geographical extent to which the environment may be impacted by unplanned activities, risks and impacts.

11.2.1.2 Geographical Locations

Cooper Energy has undertaken consultation activities in relation to the Otway activities and specifically in relation to the Otway offshore facilities since the facilities were acquired from the previous operators. Cooper Energy has continued to consult in relation to its ongoing activities and in doing so has developed a good understanding of issues and areas of interest of Relevant Persons.

Consultation from previous Cooper Energy campaigns and ongoing activities offshore Victoria informed Cooper Energy's initial list of Relevant Persons. This net was recently broadened in response to new case law (specifically, *Santos NA Barossa Pty Ltd v Tipakalippa* [2022 FCAFC 193]) and subsequent NOPSEMA guidelines A900179.

In broadening the net of relevant persons, Cooper Energy avoided applying screening mechanisms. In doing so, Cooper Energy undertook both targeted and passive campaigns to identify and consult with relevant persons. The targeted approach involved searching for relevant persons within the spill EMBA (Figure 4-1) which includes both State and Commonwealth waters. The EMBA identifies the greatest potential area that could be impacted by (low threshold) hydrocarbons (Table 6-26) in the event of a significant spill during the activities; it reflects the worst-case scenario caused by an unplanned event (i.e. vessel collision or loss of containment from the facility). By using the spill EMBA, those who may be directly and indirectly impacted by the activity are identified. Importantly, the EMBA was not used as a limiter to consultation, noting direct and indirect impacts are not limited to spill risks, nor only physical values and sensitivities, but also potential spiritual or intangible values.

11.2.1.2.1 Tailoring Communications to Relevant Person Categories

Significant effort was made to contact Relevant Persons through multiple channels, with broad contact initiated early in 2023 via registered post to a large base case list of Relevant Persons. This was followed up by emails, phone calls, webforms and a media campaign.

Based on nature and scale, and administrative maturity of Relevant Persons, not all Relevant Persons were followed up multiple times or with phone calls. For example, it was considered that large environmental Non-Government Organisations (eNGOs) and shire councils had mature processes where it was reasonable to assume email accounts were monitored. Targeted effort to identify and contact persons or organisations who were distant from the activity, and therefore less likely to be impacted by the activity or an emergency was also generally less than those with the potential to be directly impacted by the activity. A non-response from those groups was reasonably construed to be an assessment of limited impact on their interests, and likely reflected the nature of the activities under the EP.

Conversely, many attempts were made to contact the key First Nations group proximate to operations where the potential for impacts to interests was considered greater.

Though the majority of relevant persons were expected to be ascertainable through a systematic search, we considered that some relevant persons might be missed due to factors including geographic location or inadequate communication from their representative bodies. Through extended enquiry, reasonable additional efforts were made to contact these persons.

Extended enquiry comprised media advertisements in early July through:

- coastal regional press across Victoria
- metropolitan press – Melbourne; and
- national Indigenous media.

A link to the activities website was also provided on our Cooper Energy website.

Advertisements run by Cooper Energy are included in the figures below.



RELEVANT PERSONS CONSULTATION ON PETROLEUM ACTIVITIES ONSHORE & OFFSHORE VICTORIA

We are Cooper Energy - an ASX listed Australian energy company. We were Australia's first Climate Active Certified Carbon Neutral domestic gas producer. We have been a Carbon Neutral Organisation since 2020.

We find, produce and supply natural gas to help meet the energy needs of Australians. We have done this for over a decade. We do this with care. Government projections indicate natural gas is and will remain a critical part of the energy mix in south-eastern Australia for decades to come. We plan to continue supplying natural gas to help meet domestic energy demands for as long as homes, businesses and industry need it.

What are our activities?

Cooper Energy's Environment Plans provide for ongoing offshore subsea gas production from the Otway (Casino, Henry, Netherby field) and Gippsland (Sole field) Basins. They also cover our plans to decommission (plug subsea wells and remove infrastructure) our non-producing Basker Manta Gummy (BMG) fields 50km offshore in the Gippsland Basin. This will ultimately allow the resumption of full access to fishing and other third-party marine activities once the gazetted BMG petroleum safety zones are revoked.

Cooper Energy also operates "major hazard facilities", these being the two domestic gas plants at Orbost and Port Campbell, along with their associated pipelines.

Why are we reaching out?

We develop new environment plans for proposed activities, and revise our environment plans for ongoing activities every five years, so we would like to consult with you if you think your functions, interests or activities in coastal or marine areas offshore Tasmania, Victoria, NSW, southern QLD or the Limestone Coast SA may be affected.

Please visit <https://cooperenergy.wixsite.com/coeoffshore> to determine how you might be affected, and contact us at stakeholder@cooperenergy.com.au or via the webform so we can consult with you if you believe your functions, interests or activities may be affected.



Figure 11-1 Regional Media Connect / Victorian Country Press Advertisement




RELEVANT PERSONS CONSULTATION ON PETROLEUM ACTIVITIES ONSHORE & OFFSHORE VICTORIA

Cooper Energy's Environment Plans provide for ongoing offshore subsea gas production from the Otway (Casino, Henry, Netherby field) and Gippsland (Sole field) Basins. They also cover our plans to decommission (plug subsea wells and remove infrastructure) our non-producing Basker Manta Gummy (BMG) fields 50km offshore in the Gippsland Basin. This will ultimately allow the resumption of full access to fishing and other third-party marine activities once the gazetted BMG petroleum safety zones are revoked.

Cooper also operates "major hazard facilities", these being the two domestic gas plants at Orbost and Port Campbell, along with their associated pipelines.

Why are we reaching out?
We develop new environment plans for proposed activities, and revise our environment plans for ongoing activities every five years, so we would like to consult with you if you think your functions, interests or activities in coastal or marine areas offshore Tasmania, Victoria, NSW, southern QLD or the Limestone Coast SA may be affected.

Please visit our website <https://cooperenergy.wixsite.com/coeoffshore> to contact us via our webform or email us at stakeholder@cooperenergy.com.au

Figure 11-2- News Corp Australia Advertisement

**RELEVANT PERSONS
CONSULTATION
ON PETROLEUM ACTIVITIES
ONSHORE & OFFSHORE
VICTORIA**



Cooper Energy's Environment Plans provide for ongoing offshore subsea gas production from the Otway (Casino, Henry, Netherby field) and Gippsland (Sole field) Basins. They also cover our plans to decommission (plug subsea wells and remove infrastructure) our non-producing Basker Manta Gummy (BMG) fields 50km offshore in the Gippsland Basin. This will ultimately allow the resumption of full access to fishing and other third-party marine activities once the gazetted BMG petroleum safety zones are revoked.

Cooper also operates "major hazard facilities", these being the two domestic gas plants at Orbost and Port Campbell, along with their associated pipelines.

Why are we reaching out?
We revise our environment plans every five years, so we would like to consult with you if you think your functions, interests or activities in coastal or marine areas offshore Tasmania, Victoria, NSW, southern QLD or the Limestone Coast SA may be affected.

Please visit our website
<https://cooperenergy.wixsite.com/coeoffshore>
to contact us via our webform or email us at
stakeholder@cooperenergy.com.au



Figure 11-3 Koori Mail Advertisement

11.2.1.2.2 Self Identification

In addition to relevant persons that are identified by us, other relevant persons were able to self-identify at any time.

Our approach was not to impose any unnecessary barriers to being considered a relevant person. However, the person would need to demonstrate more than a general interest, advise how their functions, interests or activities may be affected by our activities, and provide full contact details to be thereafter considered a relevant person.

Once confirmed as relevant persons, any self-identified relevant persons would be consulted in accordance with the process already described in sections 11.2.1.3 and 11.2.1.4. Levels of effort would not be high, as once such a relevant person had indicated a willingness to engage and provided contact details, it was reasonable to assume any follow up correspondence was received and no further effort was needed to pursue a response.

No stakeholders self-identified as relevant persons for the activities under this EP.

11.2.1.3 Identification of Relevant Persons – Cwth OPGSS(E)R 25(1)(a), (b), (d) and (e), and Vic OPGSR 13F (a), (b) and (c)

Table -11-2: Relevant Persons for the Otway Offshore Activities

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Each Commonwealth agency or authority to which the activities to be carried out under the EP may be relevant Cwth 25(1)(a)			
Australian Antarctic Division (AAD)	Marine Mammal research, protection and conservation	Administrators of Australian marine mammal sightings database. Experience and specialism in marine mammal monitoring and risk mitigations.	Targeted consultation in relation to marine mammal sightings, risk management and reporting.
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Commonwealth fisheries	Activity is within a Commonwealth fishery area or will impact or potentially impact a Commonwealth fishery area or resource. Via prior consultation, AFMA has recommended engagement with Commonwealth Fisheries Association (CFA) as the peak fishing industry body for Commonwealth waters and that 'Australian Bureau of Agricultural and Resource Economics and Sciences' reports should be reviewed for fishery status.	Commonwealth managed fisheries overlap the activity area, and support vessel movements may be of interest.
Australian Fisheries Management Authority (AFMA)		CFA is included in this table as a Relevant Person; the latest 'Australian Bureau of Agricultural and Resource Economics and Sciences' report and study by SETFIA (2020) was used to determine which Commonwealth and State fisheries have fishing effort within the activity area.	
Australian Hydrological Service (AHS)	Maritime safety	Interest in identifying and charting potential seabed features and hazard warnings to mariners. Via prior consultation, AHS have requested to provide information at least three weeks prior to commencement of any oil and gas activity to allow for publication of notices to mariners.	Interested in safe navigation of commercial shipping in Australian waters during the activity. Interested in charting changes to infrastructure and exclusion zones.
Australian Maritime Safety Authority (AMSA)	Marine Vessel Safety	Activity focused consultation regarding shipping, emergency response preparedness and offshore activity levels.	Interested in safe navigation of commercial shipping in Australian waters during the activity. Involved in maritime notifications, advice and emergency response.
Department of Industry Science and Resources (DISR)	Commonwealth resource management and innovation	The Department's primary function is to support economic growth and job creation for all Australians. Provides public consultation hub for Australian policy and legislative frameworks.	Involved in recent review of Australia's decom policy and legislative frameworks to ensure they remain fit for purpose now and into the future. I.e., Offshore petroleum decommissioning guideline 2018 and Discussion Paper.
Department of Agriculture, Fisheries and Forestry (DAFF) - Biosecurity	Biosecurity	Responsible for managing biosecurity of incoming goods and conveyances (including biosecurity) in Australia. Responsible for implementation of marine pest and biosecurity within Australian Waters (12nm), including conveyances into Australian Waters. The Otway offshore activities will involve activities both inside and beyond 12nm, provisioned by conveyances within 12 nm. The department also provides national leadership in management of established marine pests, and in responding to incursions of exotic marine pests, and is responsible for implementing ballast water requirements under the Biosecurity Act.	Potential for biosecurity risk associated with conveyances applicable to the Activity, such as equipment and vessels.
DAFF – Fisheries (Formerly DAWE – Fisheries)	Fisheries	Activity is within a Commonwealth fishery area or will impact or potentially impact a Commonwealth fishery area or resource.	Consultation in relation to potential impacts to other marine users, including commonwealth fisheries.
DAWE – Sea Dumping Section (now DCCEEW)	Administration of the Sea Dumping Act	NOPSEMA guidance N-06800-GL1887 identified DAWE as a relevant Department or Agency with respect to Sea Dumping. Further to guidelines released in Q4 2019 (Revised specific guidelines for assessment of platforms or other man-made structures at sea), DAWE (now DCCEEW) will now review	May be relevant for future decommissioning planning depending on final end-states (base case is full removal). No activities are currently relevant hence no detailed consultation on the activity.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
DCCEEW - Underwater Cultural Heritage	Underwater Heritage	facility/infrastructure decommissioning scenarios on a case-by-case basis (pers comm. DAWIE Sea dumping section). Administers the Underwater Cultural Heritage Act 2018 (UCH Act). DCCEEW regulates activities in relation to protected underwater cultural heritage (UCH) within Australian waters including the Commonwealth marine area. DCCEEW is a relevant agency for consultation where: • an activity has the potential to directly or indirectly adversely impact protected UCH (see section 30(2) of the UCH Act), whether located or unlocated; and/or • an activity or part of the activity is proposed within an underwater heritage protected zone.	Actions resulting in seabed disturbance have the potential to impact underwater heritage. None of the activities are proposed within an underwater heritage protected zone. Underwater heritage protected zones were identified within the spill EMBA.
Department of Defence (DoD)	National security	Relevant where the proposed activity may impact DoD operational requirements, where the proposed activity encroaches on known training areas and/or restricted airspace and where there is a risk of unexploded ordnance in the area where the activity is taking place.	Operational areas do not overlap defence areas. The Australian Defence Force conducts a range of training, research activities, and preparatory operations within the EMBA.
Director of National Parks (DoNP)	Managing Commonwealth reserves and conservation zones	The DoNP is a relevant person for consultation for this project in relation to potential incidents in Commonwealth waters which could impact on the values of a Commonwealth marine park.	Operational Area does not overlap marine parks however, potential EMBA for unplanned spill scenario (LOWC) is in proximity to a Commonwealth marine park. Consult in relation to spill response planning as relevant.
Each State agency or authority to which the activities to be carried out under the EP may be relevant (Cwth OPGGS(EJR)25 (1)(a))			
Any Authority or Entity of the State to which the activities to be carried out under the environment plan, may be relevant (Vic OPGGSR 13F(1)(a))			
DEECA - Marine National Parks and Marine Parks	Victorian marine national parks	Protecting and enhancing coastline and its waters to underpin Victorian business, tourism, recreation, wellbeing and biodiversity.	CHN spill EMBA overlaps 3 Victorian MPA.
DEECA - Victorian wildlife emergencies	Wildlife and habitat protection/conservation	Responsible for management of wildlife impacted by marine pollution / oil spill (control agency). Responsibilities defined in the Victorian Emergency Animal Welfare Plan (VEAWP) and the Victorian State Maritime Emergencies (non-search and rescue) Plan (SMEP).	Wildlife response control agency in the event of an oil spill. Input into OPEP wildlife response plan where there is shoreline contact in Victoria or impact on Victorian coastal waters.
Department of Energy, Environment and Climate Action (DEECA) – Biosecurity	Victorian biosecurity	DEECA Biosecurity and Agricultural Services manage advice on biosecurity within Victoria including vessels in state waters/calling into ports. The DEECA BAS has provided advice during the development of Cooper Energy IMS risk management processes.	Potential for biosecurity risk associated with conveyances applicable to the Activity, such as equipment and vessels.
DJSIR – Regional Development Victoria	Local business / economy and community	Victorian Government's lead agency responsible for rural and regional economic development.	Otway spill EMBA overlaps with coastal communities and local businesses.
DJSIR - Victorian Fisheries Authority	Changes in fishery access and/or habitat	Activity is within a Victorian fishery area or will impact or potentially impact a Victorian fishery area or resource. Study by SETFIA (2020) identifies which Victorian fisheries are authorised to fish in the Title areas, and those who do actively fish.	Operational Area overlaps with Victorian fishery areas.
Department of Transport and Planning (DTP) – Victoria	Marine pollution response in Victoria	Responsible for marine pollution response arrangements in Victorian jurisdiction. DTP coordinate advice with other state agencies involved in marine pollution response including DEECA and Port Authorities.	EMBA and Support vessel routes overlaps with Victoria waters as such OPEP sets out arrangements with DTP.
Department of Energy, Environment and Climate Action (DEECA)	Wildlife and habitat protection / conservation	Responsible for State marine protected areas within Victorian jurisdiction, and oiled wildlife response.	Wildlife response control agency in the event of an oil spill. Input into OPEP wildlife response plan where there is shoreline contact in Victoria or impact on Victorian coastal waters.
Parks Victoria	Wildlife and habitat protection/conservation in Victoria	Manages Victoria's marine national parks.	Oil spill EMBA overlap with 3 Victorian MPAs
Transport Safety Victoria (Maritime Safety)	Marine Safety	Manages safety of waterways in Victoria and prepares State Waters Notice to Mariners. Acts as AMSA delegate in Victoria in event of marine incidents.	Notice to Mariners required in State waters for the Activity when IMR vessel operates in State waters.
The Department of the responsible state Minister (Cwth OPGGS(EJR) 25(1)(b))			

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
DEECA – Earth Resources Regulation (ERR)	Victorian waters petroleum title management	Joint Authority Member for offshore Victorian waters including granting, refusal or renewal of offshore petroleum titles, variation of titles and title terms. Under Cwth Regulation 25(1)(b) they are the Department of the responsible Minister.	Regulate petroleum activities in Victorian State waters.
A person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP (Cwth OPGS(E)R 25(1)(d)) A person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan, or the variation of the environment plan (OPGSR 13F(1)(b))			
Commonwealth Fisheries			
Australian Wildcatch Fishing (Corporate Alliance Enterprises)	Changes in fishery access and/or habitat	Operates in SESS Fishery	Fishery overlaps with EMBA. Also represented by SETFIA.
Bass Strait Industry Association	Changes in fishery access and/or habitat	Industry association for the Bass Strait Central Scallop Fishery operators	Otway offshore operations and EMBA intersect the management area for Bass Strait Central Zone Scallop fishery.
Commonwealth Fisheries Association (CFA)	Changes in fishery access and/or habitat	Peak industry body representing the interests of fishers operating in Commonwealth managed fisheries. AFMA recommended engagement with CFA as the peak fishing industry body for Commonwealth fisheries.	Petroleum Activity and support route overlaps with Commonwealth fisheries areas and may restrict access. Future changes in PSZ of interests to fishers.
Seafood Industry Australia	Changes in fishery access and/or habitat	The national peak-body representing members from the wildcatch, aquaculture and post-harvest sectors of the Australian seafood industry.	EMBA may overlap with fisheries who may be members of the peak body
Small Pelagic Fishery Industry Association	Changes in fishery access and/or habitat	Commonwealth managed fishery with management area which intercepts COOPER ENERGY assets.	No fishing effort recorded within the OA. Cooper Energy has ongoing engagement with SETFIA across all operations offshore in Victoria who provide notification to fishers when activities are being undertaken.
South East Fishing Trawl Industry Association (SETFIA)**	Changes in fishery access and/or habitat	Peak industry body representing the interests of fishers operating in the Commonwealth Trawl Sector. SETFIA supports consultation for members of the following fisheries: South East Trawl (Cth), Gillnet Hook and Trap (Cth), Eastern Zone Rock Lobster (Vic) and Small Pelagic Fishery (Cth). Cooper Energy has had a long-standing agreement in place with SETFIA to support Cooper Energy's consultation. SETFIA notes on its website that it can comment on how impacts can be minimised on behalf of the following fisheries: • South-east trawl fishery • Gillnet hook and trap fishery • Eastern zone rock lobster fishery • Central zone scallop fishery • Small pelagic fishery https://setfia.org.au/wp-content/uploads/2023/08/SETFIA-Proposal-for-oil-gas-coys-May-2022.pdf Nevertheless, it is not clear that SETFIA can act on behalf of members for consultation on matters pertaining to this EP, so SETFIA provides a service as a conduit to members in distributing consultation materials, with members of supported fisheries able to respond through SETFIA, or direct to Cooper Energy.	Cooper Energy has ongoing engagement with SETFIA across all operations offshore in Victoria who provide notification to fishers when activities are being undertaken.
Southern Shark Industry Alliance (SSIA)**	Changes in fishery access and/or habitat	Industry body representing interests of its Commonwealth-licensed shark gillnet and shark hook members in the Gillnet Hook and Trap Fishery. Activity is within the Southern and Eastern Scalefish and Shark Fishery management area where there is no fishing effort.	Within fishery area and fishery is active in the area (2010-2019) in area access. Continue to engage. Engagement is via SETFIA. Cooper Energy has ongoing engagement with SETFIA across all operations offshore in Victoria who provide notification to fishers when activities are being undertaken.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Southern Squid Jig Fishery**	Changes in fishery access and/or habitat	Individual skippers managed by AFMA South East Management Advisory Committee. Activity is within the Southern Squid jig fishery management area, though the fishery is transient and operate at water depths between 60 m and 120 m. SSJF are recorded as fishing within the Title Areas	Within fishery area and fishery is active in the area (2010-2019) in area access. Continue to engage.
Sustainable Shark Fishing Inc. (SSF1)**	Changes in fishery access and/or habitat	Activity is within the Southern and Eastern Scalefish and Shark Fishery management area where there is no fishing effort.	Within fishery area and given fisheries interest in area access. However, no overlap between this aspect of the project and Relevant Person functions, interests, and activities expected. Engagement is via SETFIA. Cooper Energy has ongoing engagement with SETFIA across all operations offshore in Victoria who provide notification to fishers when activities are being undertaken.
Tuna Australia	Changes in fishery access and/or habitat	Peak body representing statutory fishing right owners, holders, fish processors and sellers, and associate members of the Eastern and Western tuna and billfish fisheries of Australia.	Operational Area overlaps Eastern Tuna and Billfish Fishery. No active fishing identified at in vicinity the Otway facilities. Continue to provide updates to Tuna Australia as agreed.
Australian Southern Bluefin Tuna Industry Association	Changes in fishery access and/or habitat	Represent interests of southern bluefin tuna fishers	Fishery management area intercepts with Cooper Energy assets. There is no fishing effort within the OA.
State Fisheries			
Abalone Council Australia	Changes in fishery access and/or habitat	Peak industry body representing the wild-harvest abalone industry from Tasmania, Victoria, South Australia, Western Australia and New South Wales. Fishing occurs in water depths <30 m.	Activity is within the Victorian Central Abalone Zone. Based on water depths for fishing and habitat, overlap between the project and Relevant Person functions, interests, and activities is minimal.
Abalone Council Victoria	Changes in fishery access and/or habitat	The peak body representing interests of abalone divers, quota holders and processors in the Victorian wild harvest abalone fishery.	CHN assets overlap Victorian Central Abalone Zone. Abalone diving activity occurs close to shoreline (generally to depths of 30 m on rocky reefs) and may operate around the assets.
Abalone Victoria Central Zone (AVCZ)**	Changes in fishery access and/or habitat	Represents the views and interests of its members and to ensure appropriate governance of member resources. However, fishing occurs in water depths <30 m (minimal overlap during normal operations).	Activity is within the Central Zone represented by Abalone Victoria. Note indirectly engaged via representative body (SIV)
Allfresh Seafood	Changes in fishery access and/or habitat	Processor of Southern Rock Lobster from the Port Fairy & Warrnambool waters.	EMBA intersects rock lobster management area.
Apollo Bay Fishermen's Cooperative	Changes in fishery access and/or habitat	Distributes crayfish and rock lobster across Australia and globally, runs fish and chip shop operation and supports wider local fishing industry in the Otway region.	Members may operate within the EMBA
Giant Crab Fishery	Changes in fishery access and/or habitat	State managed commercial fishery with management area which intercepts COOPER ENERGY assets.	Giant Crab Fishery has catch effort in the OA and spill EMBA. Giant Crab Fishery are members of SIV with engagement made via SIV.
Port Campbell Professional Fishermen's Association	Changes in fishery access and/or habitat	Industry body representing views and interests of its members.	Members may operate within the EMBA
Portland Professional Fishermen's Association	Changes in fishery access and/or habitat	Industry body representing views and interests of its members.	Members may operate within the EMBA
Seafood Industry Victoria (SIV)**	Changes in fishery access and/or habitat	Peak industry body representing the interests of fishers operating in State (Vic) managed fisheries. SIV primary contact for State fishers. Multiple constructive engagements over the years with SIV to discuss Cooper Energy's activities and ongoing engagement. SIV has expressed interest in overlapping activities with its members. SIV engagement covers all state fisheries; every Victorian fishing access licence holders other than individual wildcatch abalone licence holders are members, with wildcatch abalone fishery licence holders represented through their membership with Abalone Council Victoria.	Activity overlaps with a number of State fisheries. Changes in PSZ, offshore activities and fishing access of interest.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
South Australian Rock Lobster Advisory Council Inc (SARLAC)	Changes in fishery access and/or habitat	Cooper Energy has recently established a formal agreement with SIV that supports consultation with all relevant SIV members.	Operate out of SA port however fish in Victorian waters. Engagement requested by Grant Shire Council
Southern Rock Lobster Ltd (SRL)**	Changes in fishery access and/or habitat	National peak body working to further the interests of the Australian Southern Rock Lobster Industry. The Victorian Government has jurisdiction over the commercial rock lobster fishery in Commonwealth waters adjacent to Victoria through an Offshore Constitutional Settlement Agreement with the Commonwealth Government Consultation with Rock Lobster Fishery and Giant Crab Fishery are linked, noting Giant Crab Fishery (Western Zone) Access Licence can only be operated when it is linked to a Rock Lobster Fishery (Western Zone). The fishing grounds for southern rock lobster extend through State and Commonwealth waters; main rock lobster fishing grounds in the region are known to be located around Portland Bay. Studies indicate some Rock lobster fishing in the Title areas.	Activity is within the western zone of the Rock Lobster Fishery. Potential impact Relevant Person functions, interests, and activities. Also represented by SIV.
Victorian Recreational Fishers Association	Changes in fishery access and/or habitat	Peak body representing recreational fishing interests in Victorian waters.	Activity is within an area where there may be only low levels of recreational fishing given the distance to shore. Support vessel activities may overlap within an area where they may be low levels of recreational fishing as not features other than pipeline.
Victorian Rock Lobster Association (VRLA)**	Changes in fishery access and/or habitat	Activity is within the western zone of the Rock Lobster Fishery. The Victorian Government has jurisdiction over the commercial rock lobster fishery in Commonwealth waters adjacent to Victoria through an Offshore Constitutional Settlement Agreement with the Commonwealth Government. Consultation with Rock Lobster Fishery and Giant Crab Fishery are linked, noting Giant Crab Fishery (Western Zone) Access Licence can only be operated when it is linked to a Rock Lobster Fishery (Western Zone) Access Licence. The fishing grounds for southern rock lobster extend through State and Commonwealth waters; main rock lobster fishing grounds in the region are known to be located around Portland Bay. Studies indicate some Rock lobster fishing in the Title areas.	Activity is within the western zone of the Rock Lobster Fishery and there is potential for overlap between activities and fishing. Potential impact Relevant Person functions, interests, and activities. Continue to engage. Note requested that consultation be undertaken via SIV as such indirectly engaged via SIV.
Victorian Scallop Fisherman's Association	Changes in fishery access and/or habitat	Representative body of Victorian Scallop Fishers. Most members are based in Lakes Entrance, East Gippsland, Victoria. No active fishing within Otway Titles.	Activity and scallop fishing does not overlap. Via previous consultation are mainly concerned regarding seismic surveys. *Note indirectly engaged via representative body (SIV).
Business			
Apollo Bay Chamber of Commerce	Local business	Activity is within the Otway area where the Chamber partners with local businesses to do better business and promote the local area through events and promotion.	EMBA intersects Apollo Bay with local businesses potentially affected in the event of a spill.
TGS	Seismic data acquisition	TGS actively undertake seismic survey within the Otway region.	Activity is occurring within with Otway Basin which is subject to concurrent activities with neighbouring titleholders.
Timboon Action Group	Local Community	Local volunteer community group committed to the promotion and development of the community.	Timboon is located in proximity to the Athena gas plant.
eNGO			
Friends of the Earth - Melbourne	Climate change and habitat protection/conservation	Otway Offshore Operations involve a petroleum activity being undertaken in offshore Australian waters. Organisation focus includes climate justice, ecosystem conservation, First Nations' allegiance and keeping fossil fuels in the ground.	Petroleum activity with potential impacts and risks to the environment; therefore, Relevant Person functions, interests, and activities may be affected.
International Fund for Animal Welfare	Marine wildlife Habitat protection / conservation	Global non-profit helping animals and people thrive together. Run various programmes including marine mammal rescue and research, and marine conservation	Petroleum activity with potential impacts and risks to the environment; therefore, Relevant Person functions, interests, and activities may be affected.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Greenpeace	Climate change and habitat protection/conservation	Otway Offshore Operations involve a petroleum activity being undertaken in offshore Australian waters. Organisation campaigns include ending the oil age, whale protection and climate change.	Petroleum activity with potential impacts and risks to the environment; therefore, Relevant Person functions, interests, and activities may be affected.
Sea Shepherd Australia	Wildlife and habitat protection / conservation	Otway Offshore Operations involve a petroleum activity being undertaken in offshore Australian waters. Organisation focus is marine conservation to protect global oceans.	Petroleum activity with potential impacts and risks to the environment; therefore, Relevant Person functions, interests, and activities may be affected.
Wilderness Society	Wildlife and habitat protection / conservation	Otway Offshore Operations involve a petroleum activity being undertaken in offshore Australian waters. Organisation holds opposition to drilling for oil along Australia's southern coast and support communities to stand up to Big Oil.	Otway offshore operations not 'big oil'. The facilities have existed for >15 years and are operated by a domestic company/supplier with presence in local communities. Petroleum activity with potential impacts and risks to the environment; therefore, Relevant Person functions, interests, and activities may be affected.
World Wildlife Fund	Climate change and habitat protection/conservation	Otway Offshore Operations involve a petroleum activity being undertaken in offshore Australian waters. Organisation's focus is conservation of nature, climate change and ocean plastic.	Petroleum activity with potential impacts and risks to the environment; therefore, Relevant Person functions, interests, and activities may be affected.
Australian Conservation Foundation	Climate change and habitat protection/conservation	Otway Offshore Operations involve a petroleum activity being undertaken in offshore Australian waters. Organisation's focus is climate action and conservation.	Petroleum activity with potential impacts and risks to the environment; therefore, Relevant Person functions, interests, and activities may be affected.
Environment Groups			
3280Warmambool Beach Patrol	Habitat protection/conservation	Volunteer organisation based in Victoria focussed on maintaining the quality of Warmambool's beaches	Organisation focus area is located within the EMBA in the event of an Otway Ops spill.
Apollo Bay Landcare	Habitat protection/conservation	The group has a strong focus on local environmental issues including environmental rehabilitation	Organisation is based in Apollo Bay which is located within the EMBA in the event of an Otway Ops spill
Australian Coastal Society – Victorian Chapter	Habitat protection/conservation	Contributes to a number of coastal and marine policy reforms happening in Victoria via working groups and	Organisation is focussed on Victorian coastline. The Victorian coastline would be affected in the event of a spill.
Australian Marine Conservation Society	Habitat protection/conservation	Scientists working with research centres around the globe and conservation experts safeguarding the future of Australian oceans	Organisation focus is the Australian marine environment. The Australian marine environment would be affected in the event of a spill.
Environment Victoria	Climate change and Habitat protection/conservation	Victoria based charity campaigning to solve the climate crisis and build a thriving, sustainable society that protects and values nature. Key focus is climate change and Victorian wildlife.	Otway Offshore Operations result in the production of hydrocarbons. This charity is focussed on taking action to speed up the energy transition and is Victoria based.
Fight for the Bight Point Fairy	Water quality Marine wildlife	Organisation focussing on there being no social licence for oil companies to drill in the Great Australian Bight.	Mayor of Moynere Council recommended this group be contacted due to expanded interest area of the group.
Living Ocean	Habitat protection/conservation Marine wildlife	Environmental association that promotes awareness of human impact on the ocean through research, education, creative activation and support of others who sustain ocean health and integrity.	Otway Offshore Operations interact with the marine environment.
Marine Mammal Foundation	Habitat protection/conservation Marine wildlife	Protects the marine environment for mammals (including Southern Right Whales) - through research, community engagement, and education. Supported by the Australian Government	Otway Offshore Operations EMBA intersects with Southern Right Whale aggregation BIA and migration and resting on migration BIA. The operational area and EMBA overlap a within a foraging area for pygmy blue whales.
Ocean Watch	Habitat protection/conservation Changes in fishery access and/or habitat	Not-for-profit environmental company that works to advance sustainability in the Australian seafood industry and operates community-based coastal habitat restoration programs.	Otway Offshore Operations EMBA intersects with Otway coastline and fishing areas.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Otway Climate Emergency Action Network (OCEAN)	Climate change	Community group against gas exploration in the Otway Basin	Otway Offshore Operations are not gas exploration; however they result in the production of hydrocarbons
Rising Tide Australia	Climate change	Grassroots activist collective based in Newcastle, Australia, with focus on climate change and demanding Australia honours commitment to the goals of the Paris Climate Agreement.	Otway Offshore Operations result in the production of hydrocarbons.
Surfers for Climate	Climate change	A sea-roots movement dedicated to positive climate action and heads the campaign 'Don't Drill the Otways'.	Otway Offshore Operations are not gas exploration; however they result in the production of hydrocarbons
Surfrider Foundation Australia	Climate change	Not-for-profit dedicated to the protection of Australia's waves and beaches through conservation, activism, research and education.	Otway Offshore Operations are not gas exploration; however they result in the production of hydrocarbons
Warmambool Coastcare Landcare Network	Habitat protection/conservation	Improve biodiversity in Warmambool and district and advocate for the protection of the natural environment.	Warmambool is located within the EMBA in the event of a spill.
Whale and Dolphin Conservation Australia	Habitat protection/conservation Marine wildlife	Leading charity dedicated to the protection of whales and dolphins.	Otway offshore activities (e.g., IMR vessels) will result in the generation of subsea noise.
First Nations			
Bunurong Land Council Aboriginal Corporation (BLCAC)	Cultural heritage / spiritual connection	Traditional Owner organisation that represents the Bunurong people of the South-Eastern Kulin Nation. The organisation aims to preserve and protect the sacred lands and waterways of their ancestors, their places, traditional cultural practices, and stories. The BLCAC is a Registered Aboriginal Party (RAP). The Victorian Aboriginal Heritage Act 2006 recognises Registered Aboriginal Parties (RAP) as the primary guardians, keepers and knowledge holders of Aboriginal Cultural Heritage. RAPs are the primary source of advice and knowledge on matters relating to Aboriginal places or Aboriginal objects in their region. (https://www.aboriginalheritagecouncil.vic.gov.au/about-victorias-registered-aboriginal-parties). As such, RAPs are well placed to advise on potential risks and impacts of our activities and to advise on the existence of potential additional Relevant Persons whose functions, interests or activities may be impacted by our activities.	Bunurong Country outside EMBA, but potential for cultural links.
Eastern Maar Aboriginal Corporation (EMAC)	Cultural heritage / spiritual connection	The Eastern Maar Aboriginal Corporation manages native title rights for the Eastern Maar Peoples. The EMAC is a Registered Aboriginal Party (RAP). The Victorian Aboriginal Heritage Act 2006 recognises Registered Aboriginal Parties (RAP) as the primary guardians, keepers and knowledge holders of Aboriginal Cultural Heritage. RAPs are the primary source of advice and knowledge on matters relating to Aboriginal places or Aboriginal objects in their region. (https://www.aboriginalheritagecouncil.vic.gov.au/about-victorias-registered-aboriginal-parties). As such, RAPs are well placed to advise on potential risks and impacts of our activities and to advise on the existence of potential additional Relevant Persons whose functions, interests or activities may be impacted by our activities.	The operational area and EMBA intersects with coastal Country which could result in impacts to underwater and coastal cultural heritage and spiritual values.
First Nations Legal & Research Services	Cultural heritage / spiritual connection	First Nations Legal & Research Services is the native title services provider for Victorian Traditional Owners.	The operational area and EMBA intersects with coastline of interest to persons a represented by this group. Potential impacts to shoreline and underwater cultural heritage and spiritual values.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Gunditj Mirring Traditional Owners Aboriginal Corporation (GMOAC)	Cultural heritage / spiritual connection	The Gunditj Mirring Traditional Owners Aboriginal Corporation manages native title rights for the Gunditjmarra community and ensure cultural obligations and responsibilities for country, custom and beliefs are upheld. The GMOAC is a Registered Aboriginal Party (RAP). The Victorian Aboriginal Heritage Act 2006 recognises Registered Aboriginal Parties (RAP) as the primary guardians, keepers and knowledge holders of Aboriginal Cultural Heritage. RAPs are the primary source of advice and knowledge on matters relating to Aboriginal places or Aboriginal objects in their region. (https://www.aboriginalheritagecouncil.vic.gov.au/about-victorias-registered-aboriginal-parties). As such, RAPs are well placed to advise on potential risks and impacts of our activities and to advise on the existence of potential additional Relevant Persons whose functions, interests or activities may be impacted by our activities.	The EMBA intersects with coastal Country which could result in impacts to shoreline and underwater cultural heritage and spiritual values
National Native Title Tribunal (NNTT)	Cultural heritage / spiritual connection	The National Native Title Tribunal is an independent body established under the Native Title Act 1993 in Australia as a special measure for the advancement and protection of Aboriginal and Torres Strait Islander peoples. It manages applications for and administration of native title in Australia.	The EMBA intersects the coastline and nearby sea country with determination and claims in place.
Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC)	Cultural heritage / spiritual connection	Community organisation that represents the interests of Aboriginal people residing in South-western Victoria The WTOAC is a Registered Aboriginal Party (RAP). The Victorian Aboriginal Heritage Act 2006 recognises Registered Aboriginal Parties (RAP) as the primary guardians, keepers and knowledge holders of Aboriginal Cultural Heritage. RAPs are the primary source of advice and knowledge on matters relating to Aboriginal places or Aboriginal objects in their region. (https://www.aboriginalheritagecouncil.vic.gov.au/about-victorias-registered-aboriginal-parties). As such, RAPs are well placed to advise on potential risks and impacts of our activities and to advise on the existence of potential additional Relevant Persons whose functions, interests or activities may be impacted by our activities.	The EMBA intersects with coastal Country which could result in impacts to shoreline and underwater cultural heritage and spiritual values.
Local Government and MPs			
Apollo Bay Police and Ocean Rescue	Maritime safety	Local police and ocean rescue within Apollo Bay. Police activates the ocean rescue volunteer group.	Apollo Bay is within the Otway Offshore Operations EMBA
Barwon Coast Committee of Management	Habitat protection/conservation Local community	Holds responsibility for the marine and coastal crown land along the Barwon Coast. Their vision being that the natural environment of the coastline will flourish whilst meeting the needs of engaged communities.	Shire has coastline that could be affected in the event of a spill as it is situated within the EMBA.
Member for Western Victoria	Local community Business Tourism	Member of the Victorian Parliament, Legislative Council. Electorate includes south west Victoria.	Electorate has coastline that could be affected in the event of a spill as it is situated within the EMBA.
Colac Otway Shire	Local community Business Tourism Conservation	Shire within the Otway covering volcanic lakes, craters and plains in the north, through the hinterland forests of the Otway Ranges to the Great Ocean Road coastline.	Shire has coastline that could be affected in the event of a spill as it is situated within the EMBA.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Corangamite Shire	Local community Business Tourism Conservation	Shire within the Otway region extending from the 12 Apostles on the coast near Port Campbell and Princetown to Skipton in the north. The Great Ocean Road, the 12 Apostles, the Port Campbell National Park, fishing and volcanic hills and craters attract tourists.	Port Campbell (where CHN pipeline comes ashore) is within the Corangamite Shire
Federal member for Wannon	Local community Business Tourism	Federal member for Wannon whose strategy includes protecting the environment	Wannon electorate has coastline that could be affected in the event of a spill as it is situated within the EMBA.
District Council of Grant	Local community Business Tourism Conservation	Local government area located in the Limestone Coast region of South Australia and is the southernmost council in the state.	Shire is located immediately west of the EMBA and therefore may represent a community that fishes within the neighbouring EMBA.
Member for Western Victoria	Local community Business Tourism	Member of the Victorian Parliament, Upper House whose electorate includes southwest Victoria	Electorate has coastline that could be affected in the event of a spill as it is situated within the EMBA.
Glenelg Shire Council (Portland)	Local community Business Tourism Conservation	Shire within the Otway region representing the interests of communities of Portland, Casterton, Heywood, Dartmoor, Nelson, Cape Bridgewater and surrounds.	Shire has coastline that could be affected in the event of a spill as it is situated within the EMBA.
Greater Geelong City	Local community Business Tourism Conservation	Shire within the Otway region.	Shire has coastline that could be affected in the event of a spill as it is situated within the EMBA.
Member for Western Victoria Region	Local community	Government / Community Representative. Focal point for the wider onshore community.	Constituents may have interests in nearby Victorian coastline or offshore waters
Lower House Member - Gippsland South	Local community	Government / Community Representative. Focal point for the wider onshore community.	Constituents may have interests in nearby Victorian coastline or offshore waters
Member of Parliament - South West Coast (Victoria)	Local community	Government / Community Representative. Focal point for the wider onshore community.	Constituents may have interests in nearby Victorian coastline or offshore waters
Mornington Peninsula Shire	Local community Business Tourism Conservation	Shire within the Otway region.	Shire has coastline that could be affected in the event of a spill as it is situated within the EMBA.
Moyne Shire Council	Local community Business Tourism Conservation	Represents the interests of communities of the Moyne Shire which includes residents of Port Fairy, Morlake, Macarthur, Korit, Caramut, Garvoc, Woolsthorpe, Hawkesdale, Kirsstall, Ellerslie, Pannure, Peterborough, Framlingham and Hexham.	Shire has coastline that could be affected in the event of a spill as it is situated within the EMBA.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Port Campbell Police	Local community Law enforcement	Undertake local law enforcement (not including marine matters).	Port Campbell is located along the shoreline that could be affected in the event of a spill
Member for Polwarth	Local community	Government / Community Representative. Focal point for the wider onshore community.	Constituents may have interests in nearby Victorian coastline or offshore waters
Member for South West Coast	Local community	Member of parliament responsible for the rural areas of the South-west Coast area of western Victoria.	Interested in the involvement of rural communities in Cooper activities.
Surf Coast Shire	Local community Business Tourism Conservation	Shire within the Otway region.	Shire has coastline that could be affected in the event of a spill as it is situated within the EMBA.
Warrnambool City Council	Local community Business Tourism Conservation	Shire within the Otway region.	Shire has coastline that could be affected in the event of a spill as it is situated within the EMBA.
Oil and Gas			
Australian Oceanographic Services Pty Ltd (Dr Andrew Levings)	Changes in water quality Changes in fishery access and/or habitat	Oil and Gas and Fishery Liaison. Interested in work being undertaken in the area.	Interested in work being undertaken in the area. Has offered commercial services to support Cooper Energy's offshore activities. Relevant Person has requested information on Cooper Energy's activities
Beach Energy	Oil and Gas exploration and production Maritime safety Cumulative impacts	Beach have onshore and offshore operations in Otway Basin.	Information being provided to oil and gas operators near to operational area or within the spill EMBA. Simultaneous activities are a consideration for operational synergies and cumulative impact assessments.
Bridgeport Pty Ltd (New Hope Group)	Oil and Gas exploration and production Maritime safety Cumulative impacts	A wholly owned subsidiary of New Hope Corporation Limited (ASX:NHC) developing reserves and increasing production in Otway Basin.	Information being provided to oil and gas operators near to operational area or within the spill EMBA. Simultaneous activities are a consideration for operational synergies and cumulative impact assessments.
Conoco Phillips	Oil and Gas exploration and production Maritime safety Cumulative impacts	Permits Vic/P79 and T/49P in Otway Basin. Proposed exploration program of seabed surveys and drilling up to six exploration wells no earlier than January 2024.	Information being provided to oil and gas operators near to operational area or within the spill EMBA. Simultaneous activities are a consideration for operational synergies and cumulative impact assessments.
Woodside (Formerly BHP (Minerva))	Oil and Gas exploration and production Maritime safety Cumulative impacts	Owner/Operator of the Minerva offshore facilities, Planning P&A and decommissioning activities in 2024.	Information being provided to oil and gas operators near to operational area or within the spill EMBA. Simultaneous activities are a consideration for operational synergies and cumulative impact assessments.
Other			
Peterborough Residents Group	Local Community	Group representing the views of residents of Peterborough and its progress aligned with pace of life and natural beauty interest group with focus on Great Ocean Road.	Residents group is located with coastal shoreline that could be affected in the unlikely event of a spill which reaches shorelines.

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Warmambool Volunteer Coast Guard	Habitat protection / conservation Emergency management Maritime safety	Provides ocean emergency services to coastal communities.	Warmambool coastline is located within the EMBA and could be affected in the event of a spill which reaches shorelines.
Recreational Fishing			
Victoria Game Fishing Club	Changes in fishery access and/or habitat	Premier game fishing club in the southern states of Australia	Recreational fishing vessels may intersect with the EMBA in the event of a spill which reaches shorelines.
Victorian Recreational Fishers Association (VRFish)	Changes in fishery access and/or habitat	Peak body representing recreational fishing interests in Victorian waters.	Activity and EMBA overlaps areas where there may be recreational fishing.
Recreational Group			
Academy of Scuba	Changes in water quality Tourism	Ocean diving training centre	Diving activities are likely to occur within the EMBA
Anglesea Motor Yacht Club	Changes in water quality Tourism	Anglesea based yacht club offering sailing and social events.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Apollo Bay Dive Centre and Surf n Fish	Changes in water quality Tourism	Ocean based activities for locals and visitors	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Apollo Bay Sailing Club	Changes in water quality Tourism	Members based recreational sailing clubs based in Apollo Bay.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Apollo Bay Surf & Kayak	Changes in water quality Tourism	Ocean based activities for locals and visitors	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Boating Industry Association of Victoria	Changes in water quality Tourism	Peak body for the marine sector. BIAV represents its members and supports the 200,000 registered boat owners, 400,000 marine license holders, and 900,000 boating participants in Victoria each year.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Dive Industry Association of Australia	Changes in water quality Tourism	Encourages the exchange of ideas and information on diving-related issues; to seek solutions to matters of common concern, and to offer practical advice and support to its constituent membership.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Diving Industry of Victoria	Changes in water quality Tourism	Promoting and supporting the diving industry. Activities include liaison with government bodies and authorities on marine conservation, environmental issues and other matters that affect the diving industry and the sport of diving in Victoria.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Ocean Racing Club of Victoria	Changes in water quality Tourism	Club which conducts regular offshore racing in Victoria. Home of blue water classic Melbourne to Hobart and Rudder Cup yacht races (noting route goes along west coast of Tasmania)	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Paddle Victoria	Changes in water quality Tourism	Members organisation to support the paddling community	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Peterborough Golf Club	Visual amenity Tourism	Members organisation providing local recreation / leisure in proximity to coast	Information being provided to recreational groups with shoreline location within EMBA
Point Leo Boat Club	Changes in water quality Tourism	Point Leo based boating club offering sailing and social events.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Port Campbell Rifle Range	Local Community Tourism	Rifle club for local members and tourism.	Information being provided to recreational groups with shoreline location within EMBA
Port Fairy Yacht Club	Changes in water quality Tourism	Port Fairy based yacht club offering sailing and social events.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Portland Yacht Club	Changes in water quality Tourism	Portland based yacht club that includes ocean racing, rescue boat operators and social community.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Rye Yacht Club	Changes in water quality Tourism	Local sailing club offering racing, courses and social sailing	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
SCUBA Divers Federation of Victoria	Changes in water quality Tourism	Amateur organisation representing diving clubs throughout Victoria.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Surf Sessions Surf School	Changes in water quality Tourism	Provider of learn to surf and development programs along ocean grove and 13th surf beaches	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Surfing Victoria	Changes in water quality Tourism	Governing and organising body for surfing in Victoria	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Warmambool Yacht Club	Changes in water quality Tourism	Warmambool based family-oriented yacht club offering sailing and social events.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Windsurfing Victoria	Changes in water quality Tourism	Represents the community of windsurfers in Victoria and promotes all aspects of the sport locally. Windsurfing Victoria is the public voice promoting windsurfing and lobbying to protect access to preferred spots around the State.	Information being provided to recreational groups with shoreline location and water-based focus within EMBA
Research			
Blue Whale Study	Marine mammals	International research collaboration body interested in pygmy blue whale migration in south-east Australia.	Pygmy blue whales have the potential to be impacted by the activity. Potential overlap between the activity or EMBA and the blue whale study area. Sharing of sightings data collected during offshore campaigns.
CO2CRC	Offshore industry Cumulative impacts	A carbon capture and storage research organisation, with its Otway International Test Centre in Nirranda South	Information being provided to research organisations within the EMBA in the event of a spill. Interactions could include vessel movements and cumulative impacts.
Deakin University - School of Life and Environmental Sciences	Changes in water quality Marine fauna	Academic Institution with interests and expertise in the marine environment, including built environments and interactions with marine fauna.	Cooper Energy has previously worked with Deakin University to undertake a habitat study focusing on BMG infrastructure. Petroleum activity with potential impacts and risks to the environment (Section 6); therefore, Relevant Person functions, interests, and activities may be affected.
Fisheries Research and Development Corporation	Changes in fishery access and/or habitat	A co-funded partnership between the Australian Government and the fishing and aquaculture sectors, to plan and invest in fisheries research, development and extension activities in Australia.	Otway Offshore Operations and EMBA intersects numerous fisheries.
Fishwell Consulting	Changes in fishery access and/or habitat	Research advice and consulting services to encourage and promote sustainable fishing practices to the commercial fishing industry within Australia.	General interest in other titleholder activities and service provider to Beach Energy.
Surf Life Saving Clubs			
13th Beach Barwon Heads Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions	Relevant coastal area lies within EMBA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Anglesea Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions	Relevant coastal area lies within EMBA
Apollo Bay Surf Lifesaving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions	Relevant coastal area lies within EMBA
Bancoora Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Fairhaven Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Gunnamatta Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Jan Juc Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Life Saving Victoria	Water Quality	Independent organisation that works with communities, educational institutions, governments, businesses and the broader aquatic industry to achieve new lifesaving and water safety initiatives.	Relevant coastal area lies within EMBA
Lorne Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Ocean Grove Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Port Campbell Surf Life Saving Club	Water Quality	P.C.S.L.S.C. patrol the beach at Port Campbell on every Saturday, Sunday and public holiday from mid-November until Easter Monday. With over 300 members volunteering their time throughout the year and provide a community centred service for the public.	Relevant coastal area lies within EMBA
Port Fairy Surf Lifesaving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Portland Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Torquay Surf Lifesaving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Warrnambool Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Wye River Surf Life Saving Club	Water Quality	Community club undertaking beach patrols, surf sport, events and community social functions.	Relevant coastal area lies within EMBA
Tourism			
12 Apostles Helicopters	Tourism Ecosystem health Marine fauna	Port Campbell based tourism operator that offers helicopter flights over the 12 Apostles area.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Apollo Bay Visitor Information Centre	Tourism	Providing information for tourists to the region.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Convent at Korit	Tourism	Accommodation provider in the region (Port Fairy)	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Go Surf School	Tourism	Surf and Stand-Up Paddleboard lessons in Port Fairy, Warrnambool, and Cape Bridgewater.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Functions, Interests, Activities	Activity relevance	Reason for inclusion
Great Ocean Road Coast and Parks Authority	Water Quality Tourism	Undertake management of ~ 1,000 parcels of Crown land (set to be completed by 1 November 2025). To foster resilience of the natural, cultural and heritage values of coastal Crown land and marine waters.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Great Ocean Road Regional Tourism	Tourism Changes in fishery access and/or habitat Water Quality	Regional tourism board covering the area from Torquay to the South Australian border. Working with local municipalities, tourism associations and tourism related operators to make the Great Ocean Road Region the destination of choice and help the region prosper.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Great Ocean Road Tourist Park	Tourism	Accommodation services.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Port Campbell Visitor Information Centre	Tourism	Provides local, regional, and statewide information to help visitors visiting the area.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Twelve Apostles Tourism & Business Group	Tourism	Membership-based organisation that provides leadership for the development and facilitation of local tourism and business initiatives.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Victorian Tourism Industry Council	Tourism	Peak tourism industry body and is the leading advocate for Victoria's tourism and events industry. Represents over 1,000 businesses, providing opportunities for members to connect and keep informed on the latest research, policy development and impacts that shape the Victorian visitor economy.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Warmambool Visitor Information Centre	Tourism	Providing information for tourists to the region.	Information being provided to tourism organisations located within or adjacent to EMBA potential shoreline impact area
Any other person or organisation that the titleholder considers relevant (Cwth OPGGS(EJR 25(1)(e))			
Any other person or organisation that the titleholder considers relevant (Vic OPGGSR 13F(1)(c))			
Gundijmara Aboriginal Cooperative Ltd	Cultural heritage / spiritual connection	Aboriginal heritage, values and lands conservation. The membership base would also be represented by GMTOAC and EMAC.	The EMBA intersects with coastal Country which could result in impacts to shoreline and underwater cultural heritage and spiritual values
Winda Mara Aboriginal Corporation	Cultural heritage / spiritual connection	Community organisation that represents the interests of Aboriginal people residing in South-western Victoria. This area is also represented by GMTOAC and EMAC.	The EMBA intersects with coastal Country which could result in impacts to shoreline and underwater cultural heritage and spiritual values.

****Actively fish or have members who actively fish within the Otway Title areas. Although multiple fisheries can legally fish in the area, not all of them for various reasons including unsuitability of the area (depth/habitat) and/or the relative lack of target species.**

11.2.1.4 Providing Relevant Persons Sufficient Information – Cwth 25(2) and Vic 13F(2)

To satisfy regulatory requirements, Cooper Energy must give each relevant person sufficient information to allow them to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities. Cooper Energy has prepared and provided information to relevant persons with these requirements and applicable guidelines in mind.

Generally, our approach was to build information flow from the simple to the complex, so relevant persons could gain the depth of information needed relative to their category, and likelihood and degree to which they could be impacted. Noting many relevant persons either have limited time to read through correspondence and/or are experiencing consultation fatigue, our approach to providing sufficient information to relevant persons, was typically to:

- first, capture the relevant person's attention that their functions, interests or activities may be affected by our activities under the EP;
- second, bring key risks and impacts to their further attention; and
- third, draw them to our website where more detailed information was available, and ensure pathways for additional information were clear.

Table 11-3: General Provision of sufficient information

Information type	Purpose	Key content
Email	Introduced context and purpose of the activities.	• Background of current gas production • New gas supplies needed to maintain production to domestic market • Location • Purpose of consultation • Why we are consulting with relevant persons • Overview of proposed activities • Link to website • Link to NOPSEMA's community consultation brochure • Seeking other relevant persons • Clear contact information for follow up including direct mobile number and email address
Consultation website	The consultation website provides information a number of EPs	• Why exploration wells needed • Description of proposed activities under this EP • Planned activities, interactions with environment ○ Interaction with other marine users ○ Seabed disturbance ○ Light emissions from vessels ○ Underwater sound emissions from vessel propellers and subsea equipment ○ Atmospheric emissions from fuel use

		○ Climate Change from fuel use ○ Planned Discharges: Cement, cooling water and brine, deck drainage operational discharges and bilge, sewage greywater and putrescible. • Risk events and Emergency Response ○ Marine fauna interaction with vessels causing disturbance or injury to the animal ○ Introduction, establishment and spread of invasive marine species from vessels ○ Dropped objects disturbing the seabed ○ Waste contaminating the environment (hazardous and non-hazardous) ○ Small leaks or spills of chemicals or hydrocarbons ○ Loss of containment of diesel from vessel fuel tank ○ Loss of containment from subsea infrastructure, pipelines and wells • Useful links: Guidance, regulations, corporate website • Link to currently in-force EP • Cooper Energy's general activities and maps of offshore titles • Link to NOPSEMA's community consultation brochure • Cooper Energy's consultation obligations • Purpose of consulting with relevant persons • Description of an environment plan • Decommissioning • Oil spill preparedness • Contact form

Our website was structured so a person could access broad information, but with highlighted pathways to areas of particular interest. This allowed the website user to navigate easily to specific areas, while ensuring all other topics were visible, in case they had wider interests than would be immediately obvious to us. The website provided broader, contextual information about the activities (e.g. ongoing gas production to continue supply into the East Coast market, to provide transparency to relevant persons, and explain why we are undertaking these activities.

A clear point of contact was provided on the website, and in all correspondence, for relevant persons to direct their communications, seek additional information or clarifications, or request meetings (as applicable).

A [link](#) to the NOPSEMA brochure “Consultation on offshore petroleum environment plans – Information for the community” was also included on the website, to ensure relevant persons understood what to expect with the consultation process and how to participate effectively.

11.2.1.5 Providing Relevant Persons Reasonable Period – Cwth 25(3) ad Vic 13F(3)

To satisfy regulatory requirements, Cooper Energy must provide relevant persons a reasonable period to identify the possible consequences of the proposed activity on their functions, interests or activities and to respond. The time required for this to occur depends on factors such as the hours available to the relevant person, complexity of issues that may be raised and, in the case of organisations, whether members and/or management are to be consulted. Noting that complex issues may arise in consultation, and it is an iterative process, reasonable time must be given to both the relevant person and Cooper Energy to review and respond to each other’s feedback and/or requests. These reasonable timeframes should be determined on a case-by-case basis.

For the majority of relevant persons, consultation commenced in February 2023, with a registered mail providing an overview of company activities. An updated general email was sent in May 2023 with more clarity on the consultation process, and included weblinks to the consultation website. The consultation website was designed so they could find the information that might be most relevant to their specific interests as described in *Table 11-3*. Consultation information and opportunities were provided up until late-August 2024. Throughout this period, we invited relevant persons to contact us if they required further information or wished to discuss any potential impacts or risks that might affect their functions, interests or activities.

As a general rule, we considered 30 days to be a reasonable period for relevant persons to either raise initial issues or signal their intention to consult and potentially request additional time or information to do so.

The indicative base timeline for consultation is as follows:

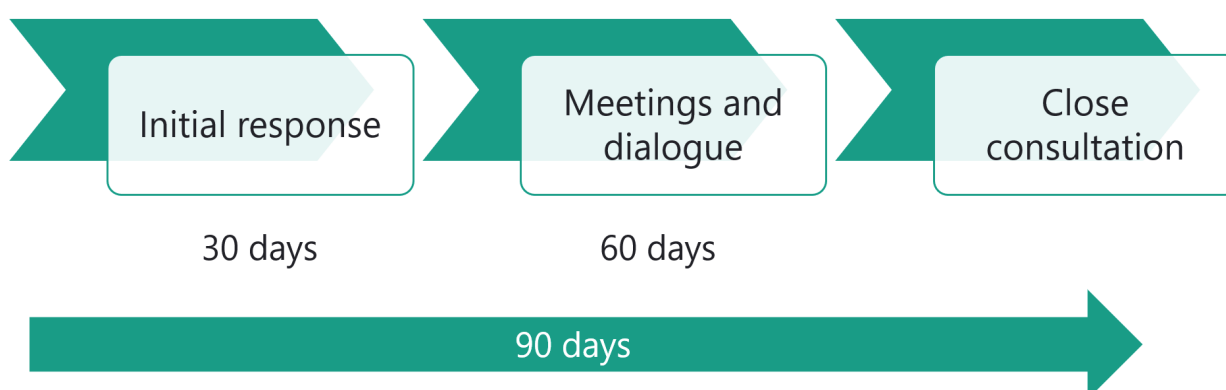


Figure 11-4: Indicative timeline

The timeline could be extended based on individual relevant person’s reasonable requests.

Other factors we considered in deciding whether a relevant person had been provided with a reasonable period for consultation, were whether during dialogue with the relevant person, a point was reached where either no new issues were being raised for consideration, or they became unresponsive.

As described in 11.2.2 , for First Nations groups, consultation periods were extended beyond target dates, and benchmarked against other relevant legislative processes.

Only one relevant person indicated to Cooper Energy that insufficient time for consultation was provided.

11.2.1.6 Sensitive information – Cwth 25(4)

In accordance with regulation 25(4) of the OPGGS(E)R, when engaging in consultation, Cooper Energy advised relevant persons who responded to communications, that they may request that particular information provided

during consultation not be published, and that information subject to that request will not be published in the Environmental Plans.

11.2.2 Consultation Approach with First Nations

Cooper Energy is committed to carrying out respectful and effective consultation with relevant First Nations groups and persons, and building positive and ongoing relationships. Throughout the planning, development and implementation of our consultation process with First Nations groups and persons, we have been cognisant of:

- NOPSEMA's consultation guideline (GL2086 – Consultation in the course of preparing an environment plan – May 2024)
- recent judicial decisions, namely *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193, *Cooper v NOPSEMA (No 2)* [2023] FCA 1158 and *Munkara v Santos NA Barossa Pty Ltd (No 3)* [2024] FCA 9; and
- applicable legislation including the *Aboriginal Heritage Act 2006* (Vic) that recognises Registered Aboriginal Parties (RAPs) and the *Native Title Act 1993* (Cth) that recognises native titleholders.

It is clear from the Full Federal Court's decision in the *Tipakalippa* appeal that some reasonable limits must be applied to titleholder's duty to consult with relevant persons, to ensure that the process is workable. To this end, a titleholder's obligation to consult under regulation 25 of the Cwth OPGGS(E)R may be discharged without:

- accommodating every extension of time or other request made by a particular consultee;
- obtaining consent from the consultee to the activity; or
- obtaining confirmation from the consultee, that the process has been carried out to their individual satisfaction.

What the titleholder must do is provide:

- sufficient information to enable the relevant person to make an informed assessment of the possible consequences of the activity on their functions, interests or activities; and
- a reasonable period of time for the relevant person to provide feedback, and for the titleholder to assess their objections or claims, and action the assessment and response.

11.2.2.1 Consultation Approach with key First Nations Groups

In Victoria, Registered Aboriginal Parties are considered the primary source of advice and knowledge relating to Aboriginal Places or Aboriginal objects in their region. (RAPs, 2023)

Their core functions include:

- evaluating Cultural Heritage Management Plans
- assessing Cultural Heritage Permit applications
- making decisions about Cultural Heritage Agreements
- providing advice on applications for interim or ongoing Protection Declarations
- entering into Aboriginal Cultural Heritage Land Management Agreements with public land managers
- nominating Aboriginal intangible heritage to the Victorian Aboriginal Heritage Register and managing intangible heritage agreements.

Having regard to section 11.2.2 above, our consultation with RAPs and PBCs has included the following key actions:

1. Undertaking desktop research to identify RAPs and PBCs overlapping the CFA.
2. Providing each of the identified RAPs and PBCs with information on the activities covered by this EP.
3. Explaining to each of the identified RAPs and PBCs the purpose of consultation, and how cultural values and heritage are important to the preparation of the EP.

4. Reviewing published literature/sources (e.g. consultation guidelines, protocols or Sea Country plans) for each identified RAP and PBC, to improve our understanding of the cultural features and heritage values overlapping with the operational area or EMBA.
5. Enquiring how each of these identified RAP/PBCs wish to be consulted.
6. Enquiring directly with each identified RAP/PBC as to whether they have any information they wish to provide on their cultural values and heritage.
7. Enquiring directly with each identified RAP/PBC as to whether they are authorised to consult on behalf of their members.
8. Requesting that each identified RAP/PBC shares consultation information any other person they consider relevant.

If there was no response from the RAP/PBC to our initial communication, we followed up at least 3 times, and (where possible) via multiple communication channels. This demonstrates a reasonable level of effort, respecting that participation in consultation is voluntary (for the relevant person), that the activity may not be a concern or priority for some RAP/PBCs, and that ‘spamming’ them may lead to ‘consultation fatigue’.

Where a RAP/PBC responded seeking further engagement, we used best endeavours to conduct consultation in accordance with their expressed preferences and requirements. For example, where they requested a face-to-face meeting or presentation, then (where practicable) it was conducted at their chosen time and location, in their preferred format and with their nominated attendees. We also offered and provided financial assistance to cover the associated transportation and meeting costs (as appropriate).

For any meetings or presentations conducted with RAP/PBCs, special care was taken to ensure that we used materials that were tailored to their interests, were in plain language suitable for an audience with a non-technical background and incorporated extensive visual elements to aid understanding. Our subject matter experts also attended, or were available to attend, these meetings and presentations, so that they could hear feedback directly, and respond promptly and accurately to any questions. We also invited questions at the meeting, or incorporated a specific ‘Q&A’ segment into the presentation, to facilitate a two-way dialogue. This allowed the audience to provide relevant information to us, and to ask questions to get any further information they required, or fill any gaps in understanding, which they may have had.

Where a RAP/PBC requested additional time to conduct a meeting with members, we considered 42 days to be a reasonable timeframe for calling and preparing for that meeting. This timeframe reflects that 21 days is often the minimum notice period provided in PBCs’ Rule Books, and then allows for a further 21 days to perform the associated administrative tasks. However, we did not rigidly enforce a 42-day time limit, but treated it as a useful reference in discussions with the RAP/PBCs, and were willing to accommodate reasonable extensions of time.

In determining whether we had provided a reasonable period of time for consultation with RAP/NTGs, we benchmarked this against other relevant legislative processes, for example:

- regulation 30 of the Cwth OPGGS(E)R, which sets out a public consultation period of 30 days;
- The Department of Mines and Petroleum “*Guidelines for Consultation with Indigenous People by Mineral Explorers*” (Department of Mines, Industry Regulation and Safety, 2004)^[1] which directs a period of 21- 30 days of consultation with traditional owners;
- while repealed, guidance taken from the *Aboriginal Cultural Heritage Act 2021—Consultation Guidelines* (Government of Western Australia, 2023) suggests that up to 12 weeks may be a reasonable period of time to allow identification, contact, and response, from First Nations peoples (subject to any alternative timeframe being agreed through co-design of consultation); and
- recent DCCEEW consultation on offshore wind zone (Southern Ocean) in the same general offshore region as this project allowed for 2 months.

11.2.2.2 Consultation Approach with First Nations Persons

Our primary efforts to consult with First Nations persons were made through engagement with the RAP/PBCs as described in the section above. In adopting this approach to consultation with First Nations groups and people, we were cognisant of:

- the *United Nations Declaration of the Rights of Indigenous People* which encourages consultation to be undertaken with Indigenous peoples' through their chosen representative entity; and
- the *Aboriginal Heritage Act 2006 (Vic)* which recognises RAPs as the primary guardians, keepers and knowledge holders of Aboriginal cultural heritage and the primary source of advice relating to Aboriginal places and objects in the appointed region.

We also recognised that by approaching individual members of a RAP/NTG directly, we may be undermining their nominated representative body and circumventing its proper processes. This could be perceived as disrespectful, cause division within those communities, and may not actually be effective in establishing what cultural features, values or beliefs are held by the relevant peoples, as a people.

Notwithstanding the above, broader efforts were also made to consult with First Nations persons through the following key actions:

1. Placing public notice advertisements in selected local, state and national newspapers to facilitate the opportunity for First Nations persons to self-identify and consult with us. This included the Koori Mail.
2. Requesting that identified RAP/PBCs distribute consultation information to their members and any other individuals they consider to be relevant, to enable them to self-identify and consult with us.
3. Requesting that identified RAP/PBCs identify any individuals that should be consulted, so that we could contact them directly.

Where we consulted with any First Nations persons, we provided information on the activities covered by the EP, an explanation of the purpose of consultation, and how cultural values and heritage are important to the preparation of the EP. We would also advise them if we were already in contact with their representative body (if that was not already apparent), so they could determine for themselves whether to engage with us directly or allow their representative body to do so.

In considering how to ensure that we reached First Nations persons, through our extended enquiry methods, we had specific regard to:

- the public notification process provided under section 66 of the Native Title Act, where the Registrar notifies the general public through the Koori Mail and a local newspaper in the area; and
- the content of our advertisements – which were specifically designed to be easily understood and to make it easy to seek further information (i.e. through our consultation website) or engagement with us (i.e. through a designated contact person).

Whilst we requested that RAP/PBCs shared information with their members and other persons they considered relevant and inform us of any person that we should consult with directly – we could not compel them to do this, nor did we have any direct line of sight to how it occurred. However, there has been nothing to suggest that any of the RAP/PBCs would not have fulfilled their role and responsibilities to members (e.g. by sharing information and complying with any member consultation requests). Therefore, it would have been inappropriate for us to question this, or ask to review their communications, and would be inconsistent with how we treat other organisations that represent communal interests.

11.2.3 Assessment of merits

Cooper Energy assessed the merit of any claims or objections raised by relevant persons during consultation (including ongoing consultation) in line with the following process.

For a claim to have merit, it must first and foremost be relevant to the EP and the activities captured by the EP. After passing this relevancy test, the objection or claim should have a reasonable and credible basis for related effects or impacts to occur. This test does not need to be exhaustive, as a proper construction of the Regulations requires that all reasonable matters should be assessed.

Once a claim or objection is considered both relevant and reasonable, Cooper Energy responds as follows:

1. If the matter raised is already considered in the EP, Cooper Energy will respond through the sharing of this information for the consideration of the Relevant Person.

2. If the matter raised results in the development of additional controls through further impact and risk evaluations, the Cooper Energy Management of Change Process shall be applied, and the outcomes will be shared with the Relevant Person.

The above steps may comprise an iterative process, and there may be a point at which consultation on an issue is concluded (and the relevant obligations discharged) without the Relevant Person being satisfied with the outcome. Cooper Energy must have fully considered matters raised, and demonstrate that impacts and risks of the activity are reduced to ALARP and an acceptable level.

In the case of First Nations interests including intangible cultural heritage issues, Cooper Energy will work with the Relevant Person to gain an appropriate understanding of the relevant concerns or issues(s) and aim to work collaboratively to manage and mitigate impacts and risks.

11.2.4 Completion of Consultation

Consultation for the purpose of preparing the EP was deemed complete upon the following conditions being met:

- the steps outlined in section 11.2.1.1 had been followed, and resulting in reasonably ascertainable relevant persons being identified in sections 11.2.1.3.
- sufficient information had been provided as described in section 11.2.1.4;
- sufficient time had been provided as per section 11.2.1.5;
- the merits of objections or claims raised by relevant persons (if any) had been considered, and resultant measures (if any) proposed to address those impacts and risks had been communicated to the respective relevant persons and captured in the EP, as described in section 11.2.4;
- the date that the current and potentially final phase of consultation was closing had been communicated to any relevant persons with whom an active dialogue had been established; and
- upon acceptance of the EP by the Regulator.

11.2.5 Report on Consultation – Cwth Regulation 24(b) OPGGS(E)R and Vic Regulation 19(b) OPGGSR

The report on all consultations under regulation 25 of the OPGGS(E)R of any relevant person, which is provided in the following tables, includes:

- a summary of information provided to relevant persons;
- a summary of each response made by a relevant person, *as required under regulation 24(b)(i) of the OPGGS(E)R*;
- our assessment of the merits of any objection or claim about the adverse impact of each activity, *as required under regulation 24(b)(ii) of the OPGGS(E)R*;
- our response, or proposed response, to each objection or claim, *as required under regulation 24(b)(iii) of the OPGGS(E)R*;
- a copy of the full text of any response by a relevant person, *as required under regulation 24(b)(iv) of the OPGGS(E)R*; and
- any measures adopted as a result of consultation.

Table 11-4: Stakeholder Feedback and Cooper Energy Assessment of Objections and Claims logged pre-August 2022 (excluding GMT/OAC)

Relevant Person	Stakeholder ID	Information provided	Summary of Stakeholder Response	Cooper Energy Assessment of Objection/ Claim	Cooper Energy Response	Record ID (Stakeholder-ID-Date-Item) (Latest consultation)
Australian Antarctic Division (AAD)	GA-AAD	COOPER ENERGY submission of marine mammal sightings forms following offshore activities.	Thanked Cooper Energy for the sightings	No claims or objections have been raised with the proposed activity.	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagements.	GA-AAD-20220321-email
Australian Fisheries Management Authority (AFMA)	GA-AFMA	Cooper Energy Activity Update 2022 Historical: Cooper Energy Activity Update for 2021	No response received. Historical AFMA noted importance of consultation with fishers within proposed activity areas. AFMA provided further details of potentially affected stakeholders.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-AFMA-20220331-email
Australian Hydrographic Service (AHS)	GA-AHS	Cooper Energy Activity Update 2022 Historical: Cooper Energy Activity Update for 2021	AHS acknowledged receipt of information. Historical AHS acknowledged receipt of information.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-AHS-20220404-email
Australian Maritime Safety Authority (AMSA)	GA-AMSA	Cooper Energy Activity Update for 2022. Historical: Cooper Energy Activity Update for 2021 Cooper Energy Offshore Maintenance – 1-month notice activity update provided Weather and progress update provided. Confirmation and acknowledgement of vessel leaving field. Discussion surrounding MOUs Cooper Energy Offshore General Visual Inspection 1-month notice activity update provided Confirmation of completion of activities	Acknowledged receipt and provided updated contact details. Confirmation no further information was needed at that time. Historical Acknowledged update Traffic update provided. Contact detail update and NMT confirmation discussion	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-AMSA-20210310-email GA-AMSA-20210309-email GA-AMSA-20210422-email GA-AMSA-20210503-email GA-AMSA-20210913-email GA-AMSA-20210913-email-2 GA-AMSA-20210917-email GA-AMSA-20220318-email GA-AMSA-20220331-email-2 GA-AMSA-20220331-email-2 GA-AMSA-20220401-email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Stakeholder ID	Information provided	Summary of Stakeholder Response	Cooper Energy Assessment of Objection/ Claim	Cooper Energy Response	Record ID (Stakeholder-ID-Date-Item) (Latest consultation)
						GA-AMSA-20220405-email GA-AMSA-20220406-email GA-AMSA-20220406-email-2 GA-AMSA-AHS-DoD-F-20210308-email.pdf GA-AMSA-DoD-F-20210308-email.pdf
Department of Agriculture, Water and the Environment (DAWE) – Biosecurity	GA-DAWE-B	Cooper Energy Activity Update for 2022 COOPER ENERGY acknowledged change in contact details. Historical: Cooper Energy Activity Update for 2021	The department noted a change in personnel and that activity update had been forwarded. Historical Acknowledged receipt of information.	No claims or objections have been raised with the proposed activity	COOPER ENERGY updated consultation records. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-DAWE-B-20220331-email.pdf GA-DAWE-B-220401-email.pdf GA-DAWE-B-220405-email.pdf
Department of Agriculture, Water and Environment (DAWE) – Fisheries	GA-DAWE-F	Cooper Energy Activity Update for 2022 Historical: Cooper Energy Activity Update for 2021	No response received. Historical No response received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-DAWE-F-20220331-email.pdf
Department of Agriculture, Water and Environment (DAWE) – Heritage	GA-DAWE-H	Cooper Energy Activity Update for 2022	No response received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-DAWE-H-20220331-email.pdf GA-DAWE-H-20220331-email-2.pdf
Department of Agriculture, Water and the Environment – Sea Dumping Section	GA-DAWE-SD	Cooper Energy Activity Update for 2022	No response received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	DA-DAWE-SD-20220412-email.pdf DA-DAWE-SD-20220412-email-2.pdf DA-DAWE-SD-20220412-email-3.pdf GA-DAWE-SD-20220331-email.pdf

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Stakeholder ID	Information provided	Summary of Stakeholder Response	Cooper Energy Assessment of Objection/ Claim	Cooper Energy Response	Record ID (Stakeholder-ID-Date-Item) (Latest consultation)
Department of Defence	GA-DoD	Cooper Energy Activity Update for 2022 Historical: Cooper Energy Activity Update for 2021 Cooper Energy Offshore Maintenance - 1 month notice	No response received.	No claim or objections raised with proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-SEFTIA-AMSA-DoT-AHO-DoD-F-20210308-email.pdf GA-AHS-20220404-email.pdf
Director of National Parks	GA-DoNP	Cooper Energy Activity Update for 2022 Historical: Cooper Energy Activity Update for 2021	No response received.	No claim or objections raised with proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-DoNP-20220331-email.pdf
DEECA Biosecurity (Previously DJ SIR - Biosecurity)	GA-DJPR-BAS	COOPER ENERGY provided COOPER ENERGY Activity Update Statement 2022 factsheet. Historical: COOPER ENERGY provided COOPER ENERGY Activity Update Statement 2021 factsheet.	No response received.	No claims or objections raised with the proposed activity.	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagements described above.	GA-DEWLP-DoT-DJPR-RDV-Parks Victoria-VFA-TMSV-20220405-email GA-DJPR-BAS-20201120-email
DJ SIR - VFA	GA-VFA	COOPER ENERGY provided COOPER ENERGY Activity Update Statement 2022 factsheet. Historical: COOPER ENERGY provided COOPER ENERGY Activity Update Statement 2021 factsheet.	No response received Clarification new contact details	No claims or objections raised with the proposed activity.	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagements described above.	GA-DEWLP-DoT-DJPR-RDV-Parks Victoria-VFA-TMSV-20220405-email GA-VFA-20201120-Email
DEECA – Marine National Parks and Marine Parks	GA-DELWLP-NPMP	Cooper Energy Activity Update 2022 Historical: Cooper Energy Activity Update 2021 Cooper Energy have previously consulted with DEECA (see Vic DTP) on the spill scenarios and responses provided for within the OPEP.	No response received. Historical: See DTP below	No claim or objections raised with proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-DELWLP-NPMP-20220405-email-1.pdf
Department of Transport and Planning (DTP)	GA-DoT	Cooper Energy Activity Update 2022. Cooper noted a desire to engage with DTP on communication protocols and processes. COOPER ENERGY acknowledged updated contacts. Historical: Cooper Energy Activity Update 2021 Cooper Energy have previously consulted with Vic DTP on the spill	Department acknowledged activity update and nominated additional contacts for consultation. Historical: In 2021 DTP and DEWLP undertook a review of the BMG Closure Project (Well P&A) OPEP (NOPSEMA ID: 6825); advice from this consultation were transferred to the Offshore Victoria OPEP in 2021. In 2019 the Offshore Vic OPEP was updated to include spill scenarios from Otway drilling activities	No claims or objections have been raised with the proposed activity	COOPER ENERGY updated consultation records. The DTP are consulted following significant changes in spill scenarios and are provided new revisions of Cooper Energy OPEP's. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will	GA-DoT-20220405-email.pdf Other relevant records: Consultation during the BMG Closure Project (P&A) planning;

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Stakeholder ID	Information provided	Summary of Stakeholder Response	Cooper Energy Assessment of Objection/ Claim	Cooper Energy Response	Record ID (Stakeholder-ID-Date-Item) (Latest consultation)
		scenarios and responses provided within the OPEP.	including at WCD locations (Annie (exploration)). The DTP coordinated a whole of government (multiple departments including DEECA) review of the OPEP; comments were addressed in the OPEP, and the EP accepted prior to drilling (NOPSEMA ID: 4702). The Annie scenarios remain the WCD scenarios for the OPEP.		continue in line with ongoing engagement.	NOPSEMA ID: <u>6825</u> Consultation preparations for 2019 Otway drilling campaign: NOPSEMA ID: <u>4702</u>
Parks Victoria	GA-PV	Cooper Energy Activity Update 2022	Acknowledged receipt of information.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-PV-20220406-email.pdf GA-PV-20220406-email-2.pdf
Transport Safety Victoria (Maritime Safety)	GA-TSVMS	Cooper Energy Activity Update 2022 Provided additional information on activity outlook.	Department offered to issue notice to mariners as appropriate for activities within Victorian State waters.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-TSVMS-20220406-email.pdf
Abalone Council Australia	CF-ACA	Cooper Energy Activity Update for 2022 Historical: Cooper Energy Update for 2021	No response received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-ACA-20220405-email.pdf CF-ACA-20220405-email.pdf
Commonwealth Fisheries Association	CF-CFA	Cooper Energy Activity Update for 2022 Historical: Cooper Energy Activity Update for 2021	No response received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-CFA-20220405-email.pdf
South East Trawl Fishing Industry Association (SETFIA)	CF-SEFIA	Cooper Energy Stakeholder Update. Historical: - Communication offshore maintenance scope in 2021 - Cooper Energy Offshore Maintenance - 1 month notice - Maintenance activities and dates discussed and communicated - Weather and activity update with communications discussion - Confirmed end of campaign	Confirmation of publication of update. Historical: - Acknowledged and confirmed communication process - Maintenance activities and dates discussed and communicated - Response to Cooper Energy Offshore Maintenance update and general communications process discussion. - Notifications Acknowledged and communicated	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-SEFIA-20210309-email.pdf CF-SEFIA-20210412-email.pdf CF-SEFIA-20210412-email 2.pdf CF-SEFIA-20210412-email-3.pdf

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Stakeholder ID	Information provided	Summary of Stakeholder Response	Cooper Energy Assessment of Objection/ Claim	Cooper Energy Response	Record ID (Stakeholder-ID-Date-Item) (Latest consultation)
						CF-SETFIA-20210419-email.pdf CF-SETFIA-20210419-email-2.pdf CF-SETFIA-20210422-email.pdf CF-SETFIA-20210427-email.pdf CF-SETFIA-20210427-email-2.pdf CF-SETFIA-20210427-email-3.pdf CF-SETFIA-20210502-email.pdf CF-SETFIA-20210503-email.pdf
Southern Shark Industry Alliance (SSIA)	CF-SSIA	See SETFIA	-	-	-	-
Southern Squid Jig Fishery	CF-SSJF	Cooper Energy Activity Update for 2022 Historical: Cooper Energy Activity Update for 2021	No response received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-SSJF-20220405-email.pdf
Tuna Australia	CF-TA	Cooper Energy Activity Update for 2022 Historical: Cooper Energy Activity Update for 2021	No response received. Historical Confirmed contact details and would like to receive updates.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-TA-20220405-email.pdf
Australian Southern Bluefin Tuna Industry Association (Port Lincoln)	CF-ASBTIA	Historical: Cooper Energy Activity Update for 2021	No response received. Historically no responses received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-ASBTIA-PL-20201208-email.pdf

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person	Stakeholder ID	Information provided	Summary of Stakeholder Response	Cooper Energy Assessment of Objection/ Claim	Cooper Energy Response	Record ID (Stakeholder-ID-Date-Item) (Latest consultation)
Sustainable Shark Fishing Inc.	CF-SSFI	Cooper Energy Activity Update 2022 Historical: Cooper Energy Activity Update for 2021	No response received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-SSFI-20220405-email.pdf
Seafood Industry Victoria	CF-SIV	Provided Cooper Energy Activity Update 2022. Queried opportunity for publication of consultation material on SIV website. https://www.siv.com.au/offshore-projects.html Historical: Provided Cooper Energy Activity Update 2021.	SIV confirmed publication via SIV website available as a communication option. Update published on SIV website.	No claims or objections have been raised with the proposed activity	Cooper Energy took account of the opportunity to publish materials on the SIV website.	CF-SIV-2022-0405-email.pdf CF-SIV-2022-0406-email.pdf CF-SIV-2022-0406-email-2.pdf
Southern Rock Lobster Ltd	CF-SRL	Cooper Energy Activity Update 2022 Historical: Cooper Energy Activity Update for 2021	No response received.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-SRL-20220405-email.pdf
Victorian Recreational Fishers Association (VRFish)	RI-VRFA	Cooper Energy Activity Update 2022 Historical: Cooper Energy Activity Update for 2021.	No response received.	No claim or objections raised with proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	RI-VRFA-20220408-email.pdf

Table 11-5: Relevant Persons Communications logged post August 2022 (Excluding GMT/OAC) (Note some comments relate to different EPs but shown for completeness of discussion threads and stakeholder awareness)

Stakeholder	Stakeholder ID	Information Provided	Summary of Stakeholder Response	COOPER ENERGY Assessment of Objection / Claim	COOPER ENERGY Response	(Stakeholder-ID-Date-Item) (Latest Consultation) (Note: not stamped in sensitive info but dates provide link)
Businesses						
Apollo Bay Chamber of Commerce	B-ABCC	Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update B-ABCC-20230522-Email
Australian Oceanographic Services Pty Ltd	OI-AOS	Email sent with 2022 Activity Statement 08.02.2022 Email sent with 2023 activity sheet 28.02.23 Attachment 01.03.23: Northern Star Expression of Interest Email sent 21.04.23 with new website link	11.02.2023 Thanked COOPER ENERGY 01.02.2023 Offered contract services	No objection or claim Request to share services capabilities internally reasonable and actioned	Acknowledged services provided and shared internally. COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	OI-AOS-20220208-Email COE-All-Activities-2023-Update OI-AOS-20230228-Email OI-AOS-20230421-Email OI-AOS-20230301-Email OI-AOS-20230301-PDF
Timboon Action	OI-TA	Email sent 06.06.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	OI-TA-20230606-Email
Commercial Fisheries						
Apollo Bay Fishermen's Co-op	CF-ABFC	Email sent 23.05.23 with new website link 26.07.23: Requested contact details to include in the Emergency contacts directory	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	CF-ABFC-20230523-Email CF-ABFC-20230726-Email
Abalone Council Australia	CF-ACA	Email sent with 2023 activity sheet 24.02.23 Email sent new website link 22.05.23 Email sent 05.06.23 with new website link to new email address	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update CF-ACA-20230224-Email CF-ACA-20230522-Email
Abalone Council Victoria	CF-ACV	Email sent 05.06.23 with new website link 26.07.23: requested contact details to include in emergency contacts directory 26.07.23: Thanked ACV	26.07.23: provided contact details 27.07.23: asked if COOPER ENERGY is planning to undertake any exploration in the Otway Basin in the near future.	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update CF-ACV-20230605-Email

		28.07.23: COOPER ENERGY explained the consultation is just for the 4 EP as per the attached email and there is no consultation for drilling activities currently.				CF-ACV/- 20230726-Email CF-ACV/- 20230726-Email-2 CF-ACV/- 20230726-Email-3 CF-ACV/- 20230727-Email CF-ACV/- 20230728-Email CF-ACV/- 20230728-Attachment
Allfresh Seafood	CF-AS	Letter sent out with activity sheet 24.02.23	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update
Abalone Victoria (Central Zone)	CF-AVCZ	Email sent 08.03.23 with 2023 COOPER ENERGY Activities pdf Email sent 22.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	CF-AVCZ/- 20230308-Email CF-AVCZ/- 20230523-Email
Australian Wildcatch Fishing (Corporate Alliance Enterprises)	CF-AWF	Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update CF-AWF/- 20230523-Email
Bass Strait Scallop Industry Association	CF-BSSIA	Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	10.03.23 - received bounce back notification from email address used. No bounce back from new email No response; also represented by SETF/A	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	CF-BSSIA/- 20230314-Email CF-BSSIA/- 20230530-Email COE-All-Activities-2023-Update CF-BSSIA/- 20230601-Email CF-BSSIA/- 20230310-Email
Commonwealth Fisheries Association (CFA)	CF-CFA	Email sent with 2023 activity sheet 24.02.23 Email sent 1.6.23 with links to consultation website	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update CF-CFA/- 20230224-Email CF-CFA/- 20230601-Email
Port Campbell Professional Fishermen's Association	CF-PCPFA	Email with links to new website sent 1.6.23 22.06.23: Confirmed further consultation on offshore activities and note their concerns around impacts of seismic data acquisition on southern rock lobster and requested to meet.	19.06.23: Thanked for the contact and noted their concerns are the damages to rock lobsters from seismic air guns and damage to perulus larvae by seismic air guns	No objections or claims Request to be consulted on any exploration in the Otway Basin is reasonable and will be	Confirmed COOPER ENERGY would consult in the case of any future exploration activities. COOPER ENERGY has provided further clarity and	CF-PCPFA/- 20230601-Email CF-PCPFA/- 20230619-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

		26.07.23: Requested contact details to include in Emergency contact directory			actioned if and when that occurs.	opportunity to respond, and this is captured in Table 11-6	CF-PCPFA-20230622-Email CF-PCPFA-20230726-Email COE-All-Activities-2023-Update CF-PPFA-20230601-Email CF-SETFIA-20230221-Email CF-SETFIA-20230221-Representation CF-SETFIA-20230221-Register CF-SETFIA-20230420-Email CF-SETFIA-20230505-Email CF-SETFIA-20230524-Email
Portland Professional Fishermen's Association	CF-PPFA	Email with links to new website sent 1.6.23	No response		No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	
South east trawl fishing industry association (SETFIA)	CF-SETFIA	Catch up proposed in January 2023 to run through a risk review for the offshore schedule for 2023 Meeting held 21.02.23 and email sent 21.2.23 Email sent 20.04.2023 proposing a catch-up 05.05.23: email sent about activities 24.05.23 email sent with attached meeting notes	Cooper activity update on SETFIA FB page Discussion regarding plotting Cooper Energy infrastructure in shapfiles, fisher awareness campaign, confirmation of changes occurring in the SE fisheries and the need to overcommunicate the position of COOPER ENERGY infrastructure, PSZ safety video		No objections or claims Request for notifications reasonable and will be actioned	Cooper Energy to progress with vessel plotter checks, continue with notifications to fleets and SETFIA to update records and reissue the PSZ safety video. COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	
Seafood Industry Australia	CF-SIA	Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	No response		No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update CF-SIA-20230601-Email
Seafood Industry Victoria (SIV)	CF-SIV	Email sent with 2023 activity sheet 24.02.23 Email sent 26.05.23 with new website link Meeting notes sent on 04.05.2023 Map sent on 04.04.23 update of final record sent on 10.05.23. COOPER ENERGY: Provided overview of NOPTA and NOPSEMA roles, current operations, and abandonment plans, presented overview of spill risk, potential extent and differences in hydrocarbons, and highlighted DTP role in state waters. SIV: continue involvement, noted all Victorian licence holders represented by SIV, described research funding. 13.07.23: Confirming that activities consultation website had been shared with members to check issues that have been raised and to continue correspondence to confirm a date for a meeting 14.07.23: Appreciate if SIV could share activity info 14.07.23: Acknowledged to receive service model proposal and appreciated if SIV could send out the email proposed	21.04.2023. Automated email 02.05.23: Thanked the information sent and highlighted the meeting held that afternoon. 05.05.23: SIV thanked COOPER ENERGY for following up with the link and will review the notes provided 08.05.23: Suggested on alteration from the meeting, looks forward to engaging further on a fee-for-service arrangement for commercial fishers to be kept informed 14.07.23: cc'd SIV contact that undertakes approved communications and will share a proposed model and underlying policy 14.07.23: Confirmed would distribute the proposed amended message to invite members to review activities. 14.07.23: Thanked COOPER ENERGY for their understanding	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	CF-SIV-20230423-Email COE-All-Activities-2023-Update CF-SIV-20230224-Email CF-SIV-20230426-Email CF-SIV-20230504-Meeting CF-SIV-20230502-Email CF-SIV-20230504-Map CF-SIV-20230504-Map_fisheries_zone CF-SIV-20230505-Email CF-SIV-20230508-Email CF-SIV-20230510-Email	

						CF-SIV-20230714-Email CF-SIV-20230714-Email-2 CF-SIV-20230714-Email-3 CF-SIV-20230714-Email-4 CF-SIV-20230714-Email-5	
Southern Rock Lobster Ltd	CF-SRL	Email sent with 2023 activity sheet 24.02.23 Email sent 11.05.23 with new website link	No response		No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update CF-SRL-20230224-Email CF-SRL-20230511-Email
Southern Squid Jig Fishery	CF-SSJF	Letter sent out with activity sheet 24.02.23 Email sent 28.02.23 with updated activity Email sent 06.07.23 with new website link 26.07.23: Requested contact details to be included in the Emergency contacts directory	No response		No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	COE-All-Activities-2023-Update COE-Coastal_Communities-2023-Letter CF-SSJF-20230228-Email CF-SSJF-20230706-Email CF-SSJF-20230726-Email
South Australian Rock Lobster Advisory Council Inc (SARLAC)	CF-SARLAC	18.05.23 email sent with activities website	No response		No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	CF-SARLAC-20230518
Tuna Australia	CF-TA	Email sent with 2022 activity sheet 05.04.22 Email sent with 2023 activity sheet 24.02.23 Email sent 26.05.23 with new website link Email sent 30.05.23 about meeting in-person and requested TA contact details 12.07.2023 Advised that a services agreement not needed at this time as assessment shows no active fishing in the relevant fisheries in the activity areas	15.03.23: Attached industry position statement for engaging energy companies and to contact during consultation phase and to contact during consultation phase 19.03.23: Thanked for reaching out, but have stress on their resources and attached a project development plan in the marine space and requested to contact again after reviewing the document if wish to pursue a working relationship 29.05.23: Linked conversation with the program manager, provided background info of the company, and can assist in providing info from concession and permit owners and holders	No claims or objections have been raised with the proposed activity Request to discuss potential fees for service reasonable and will be responded to	Declined to set up services agreement at this time. COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	CF-TA-20230315-Email CF-TA-20230315-Attachment CF-TA-20230319-Email CF-TA-20230319-Attachment CF-TA-20220405-Email COE-All-Activities-2023-Update CF-TA-20230224-Email CF-TA-20230526-Email CF-TA-20230529-Email CF-TA-20230530-Email	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

						CF-TA-202307212-Email
Australian Southern Bluefin Tuna Industry Association	CF-ASBTIA-PL	Email sent with 2023 activity sheet 24.02.23 Email sent 23.05.23 with new website link Email sent 1.6.23 with links to consultation website	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update CF-ASBTIA-PL-20230224-Email CF-ASBTIA-PL-20230523-Email CF-ASBTIA-PL-20230601-Email
Victorian Rock Lobster Association (VRLA)	CF-VRLA	Email sent with 2023 activity sheet 24.02.23	No response Also represented by SIV	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	CF-VRLA-20230224-Email COE-All-Activities-2023-Update CF-VRLA-20220405-Email
Victorian Scallop Fisherman's Association	CF-VSFA	Email sent with Cooper Energy Activity Update for 2022 activity sheet 19.06.22 Email sent with 2023 activity sheet 24.02.23 Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link Email sent 01.06.23 with new website link 05.06.2023 email re-sent with website links	No response Also represented by SIV	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	CF-VSFA-20220619-Email-1 CF-VSFA-20220619-Email-2 CF-VSFA-20220619-Attachment COE-Coastal Communities-2023-Letter COE-All-Activities-2023-Update CF-VSFA-20230224-Email CF-VSFA-20230601-Email CF-VSFA-20230605-Email
Environment Groups						
Apollo Bay Landcare	EG-ABL	Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal Communities-2023-Letter COE-All-Activities-2023-Update EG-ABL-20230523-Email
Australian Conservation Foundation	EG-ACF	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-ACF-20230530-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



Australian Coastal Society – Victorian Chapter	EG-ACS	Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communi- ties-2023-Letter COE-All-Activities- 2023-Update EG-ACS- 20230516-Email
Australian Marine Conservation Society	EG-AMCS	Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	Email received 08.03.2023 pointing out person as focal point 20.04.23: auto response No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communi- ties-2023-Letter COE-All-Activities- 2023-Update EG-AMCS- 20230308-Email EG-AMCS- 20230420-Email-1 EG-AMCS- 20230420-Email-2 EG-AMCS- 20230523-Email
BeachPatrol 3280Warrnambool	OI-BP3280	Email sent 22.05.23 with new website link 22.05.23 Noted that no waste produced offshore from subsea production facilities with the only waste from production produced onshore at the gas plant. Provided overview of activities related to offshore inspections involving vessel use, and how waste is managed, and fuel spill risk is mitigated. 01.06.2023 Meeting: - Provided industry background - unable to test origins of tar balls -Advised no current plans for community meetings Email sent 06.06.23 with links to NOPTA site showing acreage release	16.05.23: beach patrol would like to be kept up-to-date with activities and requested to see waste management plan and oil disposal plan 30.05.23: thanked for detailed response and asked if COOPER ENERGY would be running a public consultancy meeting in Warrnambool 30.05.23: Failed delivery 31.05.23: Failed delivery 01.06.2023 Meeting: -Gave background to Beach Patrol activities Interested in understanding origins of tar balls -Noted that rubbish collected suggested a number of sources	No claims or objections have been raised with the proposed activity . Request for information regarding offshore waste and fuel spillage reasonable and provided. Request to assess tar balls not within COOPER ENERGY's capabilities. Provided other options for assessment of Tar balls.	Responded on requests for further information. Suggested contacting AMISA regarding tar balls, and would endeavour to join beach cleanup on a future visit. COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	OI-BP3280- 20230516-Email OI-BP3280- 20230516-Email OI-BP3280- 20230521-Email OI-BP3280- 20230522-Email OI-BP3280- 20230606-Email OI-BP3280- 20230530-Email OI-BP3280- 20230530-Email-2 OI-BP3280- 20230530-Email-3 OI-BP3280- 20230531-Email OI-BP3280- 20230531-Email-2 OI-BP3280- 20230606-Email
Environment Victoria	EG-EV	Email sent 29.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-EV-20230529-Email
Fight for the Bight Port Fairy	EG-FBPF	Email sent 19.06.23 with new website link 21.08.23: Confirmed COOPER ENERGY moving into ongoing consultation phase with continued opportunity for consultation throughout duration of EP. 24.08.23: Phone call with contact and follow up email.	24.08.23: Advised during telephone call that not against "lowest impact gas production" into the local grid but group is opposed to frontier exploration.	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-FBPF- 2023619-Email EG-FBPF- 20230824-Email

Friends of Bay of Islands Coastal Park	OI- FBICP	Letter sent out via email with activity sheet 03.03.23 Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update OI-FBICP-20230303-Email OI-FBICP-20230530-Email
Friends of the Earth - Melbourne	EG-FEM	Email sent 30.05.23 with new website link 08.06.23: COOPER ENERGY asked if the company was based in Melbourne and requested best time to meet on Friday 16. 09.06.23: COOPER ENERGY suggested best timeframe to meet 0.06.23: trying to schedule best day to meet 11.06.23: COOPER ENERGY asked FEM if they spoke to contact and requested the best location to meet 13.06.23: Confirmed time and location for meeting 15.06.23 Understood not available, and COOPER ENERGY will contact again for future meeting 20.07.23 Meeting in Melbourne: Initial acknowledgement that each party had a different view on the potential speed of transition away from gas usage; COOPER ENERGY provided an overview of the 4 environment plans currently being consulted on, using the activities website as presentation material.	09.06.23: will confirm best time with colleague 09.06.23: Confirmed base in Melbourne and will contact with possible times to meet 13.06.23: Responded with best location to meet 13.06.23 Annual leave auto response from Jemila 15.06.23. Accepted the invite for Thu 15 Hun 2023 2-3pm 15.06.23: Declined the invite for Thu 15 Jun 2023 2-3pm 20.07.23 Meeting in Melbourne: Initial acknowledgement that each party had a different view on the potential speed of transition away from gas usage. 1. Interested in Fugitive emissions and how reported. (COOPER ENERGY advised emissions (including fugitives) are accounted for within reports to government and annual sustainability report which is publicly available. 2) How is Carbon Neutrality attained. (COOPER ENERGY advised Scope 1, 2 and controllable scope 3 emissions are offset via offsets available under the climate active scheme.) 3) Is COOPER ENERGY concerned about validity or robustness of the offsets? (COOPER ENERGY undertakes due diligence on offsets and seeks offsets which have dual benefit e.g. carbon offset with biodiversity benefits.) 4) Will review sustainability report later and may have more queries. 5) Regarding decommissioning, how many people on the decommissioning vessel? (COOPER ENERGY: approximately 130. The main decommissioning vessel will also be supported by two other vessels with approx. 30-60 personnel.) 6)What types of marine monitoring during decom?	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-FEM-20230530-Email EG-FEM-20230608-Email EG-FEM-20230609-Email EG-FEM-20230609-Email-2 EG-FEM-20230609-Email-3 EG-FEM-20230609-Email-4 EG-FEM-20230611-Email EG-FEM-20230613-Email EG-FEM-20230613-Email-2 EG-FEM-20230613-Email-3 EG-FEM-20230615-Email EG-FEM-20230615-Email-2 EG-FEM-20230720-Email EG-FEM-20230808-Email EG-FEM-20230809-Email

				(COOPER ENERGY: Emissions and discharges will be monitored during the decommissioning campaign. CE will also undertake seabed sampling to check for any potential legacy contamination at the field.) 7) Can the sampling results be provided to FoEM to avoid lengthy FoI process with the regulator. (COOPER ENERGY: Typically reporting is provided to the regulator and not always publicly available; will look into it and advise. Post meeting note: COOPER ENERGY declined to publish) 8) Best to leave deeper discussions on decommissioning for follow up with Jeff Waters who is FoEM's decommissioning expert (BMG EP) 9) Interested in CE's longer-term plans for drilling. (COOPER ENERGY: In planning phase, future drilling subject to further approvals and additional consultation in due course. There are work plans agreed with the government for additional drilling within the Title Areas awarded to CE.) 10) Interested in CE's plans for seismic data acquisition and the use of marine vibrators instead of current compressed air sources. (COOPER ENERGY doesn't have current plans for seismic and does not have a position on marine vibrators. While CE has no current plans to acquire seismic data, it could be a future buyer of data if available.) 09.08.23: Thanked COOPER ENERGY for the meeting report and requested to be kept informed of any adjustments to future plans				
Greenpeace	EG-G	Email sent 30.05.23 with new website link	30.05.23: Email auto response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-G-20230530-Email EG-G-20230530-Email-2		
International Fund for Animal Welfare	EG-IFAW	Letter sent out with activity sheet 24.02.23 Email sent 01.06.23 with new website link.	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update EG-IFAW-20230601-Email		

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



Living Ocean	EG-LO	Email sent 30.05.23 with new website link.	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-LO-20230530-Email
Marine Mammal Foundation	EG-MMF	Letter sent out with activity sheet 24.02.23 Email sent 30.05.23 with new website link.	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update EG-MMF-20230530-Email
Otway Climate Emergency Action Network (OCEAN)	EG-OCEAN	Email sent 30.05.23 with new website link.	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-OCEAN-20230530-Email
Ocean Watch	EG-OW	Letter sent out with activity sheet 24.02.23 Email sent 30.05.23 with new website link.	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update EG-OW-20230530-Email
Rising Tide Australia	EG-RTA	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-RTA-20230530-Email
Surfers for Climate	EG-SC	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-SC-20230530-Email
Surfrider Foundation Australia	EG-SFA	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-SFA-20230530-Email
Sea Shepherd Australia	EG-SSA	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-SSA-20230530-Email
Warrambool Coastcare Landcare Network	EG-WCLN	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-WCLN-20230530-Email
Whale and Dolphin Conservation Australia	EG-WDCA	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-WDCA-20230530-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



Wilderness Society	EG-WSM	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-WSM-20230530-Email
World Wildlife Fund	EG-WWF	Email sent 30.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	EG-WWF-20230530-Email
First Nations						
Bunurong Land Council Aboriginal Corporation	FN-BLCAC	Letter sent 16.02.23 with activity sheet, requesting details of any other potentially interested persons. 25.08.2023 Email sent noting that COOPER ENERGY were finalising this stage of consultation and completing the consultation report. This email also provided the activities website link and requested that information be shared with community members that might wish to be consulted.	No response No response	No claims or objections have been raised with the proposed activity.	COE has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update COE-FN_Shires-2023-Letter
Eastern Maar Aboriginal Corporation	LO-EMAC / FN-EMAC	Letter sent 16.02.23 with activity sheet 28.04.2023 Attended cultural awareness training with Eastern Maar team Email sent 29.05.23 with new website link 19.06.2023 Called and left message requesting meeting 05.07.2023 Sent email with additional info, requesting meeting 12.07.2023 Spoke with Admin who sighted the email and will speak with CEO about returning COOPER ENERGY call 12.07.2023 CEO called and will likely be available next week to meet 14.07.23: will send an invite for meeting with the COOPER ENERGY Head of External Affairs also to join 18.07.2023 Meeting at EMAC office Email sent 19.07.23 with meeting record. COOPER ENERGY: Acknowledged the lack of opportunities within the industry - proposed looking at potential business opportunities and invited EMAC to tour the Athena gas plant, covered CHN activities and related environment plan, noted ongoing activities and the risks of activities. 25.08.2023 Email sent noting that COOPER ENERGY were finalising this stage of consultation and completing the consultation report, but noting there were outstanding responses from EMAC	12.07.2023 CEO returned call and will revert via email with suggested meeting times. 18.07.2023 Meeting at EMAC office EMAC: provided background on EMAC, explained the structure of EMAC, noted range of views within the community and noted that there are no offered apprenticeships for community members Agreed likely to respond with any issues within 30 days. No response	No claims or objections have been raised with the proposed activity. Further feedback from meeting remains pending	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6.	COE-All-Activities-2023-Update COE-FN_Shires-2023-Letter LO-EMAC-20230529-Email LO-EMAC-20230619-Email LO-EMAC-20230705-Email FN-EMAC-20230714-Email FN-EMAC-20230719-Email
Gunditjima Aboriginal Cooperative Ltd	FN-GAC	Letter sent 16.02.23 with activity sheet	No response, but covered by EMAC	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6. Sits within the EMAC RAP with members likely represented by GMT OAC and EMAC.	COE-All-Activities-2023-Update COE-FN_Shires-2023-Letter

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Winda Mara Aboriginal Corporation	FN- WMAC	Letter sent out with activity sheet 24.02.23 and requesting details of any other potentially interested persons.	No response	No claims or objections have been raised with the proposed activity	WMAC were contacted by letter and were in the footprint of the media campaign without response. WMAC acknowledges it operates on Gundijmara Country. It is reasonable to focus more on the two RAPs representing Gundijmara people- EMAC and GMT OAC. COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update COE-FN_Shires-2023-Letter
Wadawurrung Traditional Owners Aboriginal Corporation	FN- WTOAC	Letter sent 16.02.23 with activity sheet and requesting details of any other potentially interested persons. 19.02.23: Sent an attachment for activities Email sent 29.05.23 with new website link (Contact 1) Email sent 29.05.23 with new website link (Contact 2) This email noted COOPER ENERGY would be happy to meet anywhere and would be pleased to meet the board or other community members, based on their advice. Email sent 29.05.23 confirming no work on Wadawurrung Country and highlighted potential risks of a spill, including an extract from the website and potential vessel collision during operations Email sent 29.05.23 happy to follow up with any queries 25.08.2023 Email sent noting that COOPER ENERGY were finalising this stage of consultation and completing the consultation report. This email also provided the activities website link and requested that information be shared with community members that might wish to be consulted. The email also offered to meet in September.	Requested a copy of the attachment in an alternative format. Which was provided with offer extended for a catch up. 29.05.23: Automatic reply 29.05.23: Thanked COOPER ENERGY for the email and want to confirm if any work will be conducted on Wadawurrung Country 29.05.23: Thanked COOPER ENERGY for explanation, no need to call 26.08.2023 Noted would be away at that time but could possibly meet on next visit to the area. No comments on EP.	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update COE-FN_Shires-2023-Letter FN-WTOAC-20230220-Email FN-WTOAC-20230220-Activity FN-WTOAC-20230529-Email FN-WTOAC-20230529-Email-2 FN-WTOAC-20230529-Email-3 FN-WTOAC-20230529-Email-4 FN-WTOAC-20230529-Email-5 FN-WTOAC-20230529-Email-6 FN-WTOAC-20230529-Email-7
Government Agencies, Local Government and Members of Parliament						
Australian Antarctic Division	GA-AAD	Email sent on 21.03.2022 about sightings from a short subsea inspection campaign in March 2022 Email sent with 2023 activity sheet 24.02.23 Email sent 28.07.23 with attached sightings from a recent campaign offshore Gippsland and asked if there was any queries	Appreciated the info	No objections or claims COOPER ENERGY remain aware of the requirement to report sightings data	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-AAD-20220321-Email GA-AAD-20230224-Email COE-All-Activities-2023-Update GA-AAD-20230728-Email GA-AAD-20230728-Attachment

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



Apollo Bay Police and Ocean Rescue	GA-ABPOR	Letter sent out with activity sheet 24.02.23 Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE- Coastal_Communi- ties-2023-Letter COE-All-Activities- 2023-Update GA-ABPOR- 20230504-Email
Australian Fisheries Management Authority (AFMA)	GA-AFMA	Email sent with 2023 activity sheet 27.02.23 Email sent 21.04.23 with the new website link	Response 28.02.2023: Acknowledge the information and highlighted the importance to continue consulting the fisheries	No objections or claims Request to consult with relevant fisheries is reasonable and will be actioned	Confirmed COOPER ENERGY will continue to consult with relevant fishers. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities- 2023-Update GA-AFMA- 20230227-Email GA-AFMA- 20230421-Email
Australian Hydrographic Service (AHS)	GA-AHS	Email sent with 2023 activity sheet 28.02.23. Other emails relate to BMG Gippsland activities	Responses related to BMG Gippsland activities only	No objections or claims Notification requests reasonable and will be actioned	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-AHS- 20220207-Email COE-All-Activities- 2023-Update GA- AMSA_AHS_DoD- 20230228-Email-1 GA- AMSA_AHS_DoD- 20230228-Email-2 GA- AMSA_AHS_DoD- 20230228-Attachment GA-AHS- 20230228-Email GA-AHS- 20230622-Email GA-AHS- 20230623-Email GA-AHS- 20230623-Attachment GA-AHS- 20230717-Email
Australian Maritime Safety Authority (AMSA)	GA-AMSA	Email sent with 2023 activity sheet 28.02.23 Attachment: presentation on activities at BMG. Timing-Vessels-Subsea Work. 23.05.23 email sent with activities website 04.07.23COOPER ENERGY will notify Australian Hydrographic Service and request a NTM at least 4 weeks prior to the commencement of activities. COOPER ENERGY will also notify the AMSA-JRCC 24-48 hours before activities commence to promulgate an AUSCOAST warning.	08.06.2022 Responder said previous emails is no longer checked and suggest for all future correspondence NavSafety@amsa.gov.au 03.07.23: thanked for the update, requested to notify AMSA's Joint Rescue Coordination Centre (JRCC) for promulgation of radio-navigation warnings. Reminded that all vessels should exhibit appropriate lights and shapes to reflect the nature of operations. Cooper Energy should evaluate and implement adequate	No objections or claims Requests for notifications and compliance with safety requirements reasonable and will be actioned	Confirmed will comply with requests made by AMSA. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-AMSA- 20220608-Email GA- AMSA_AHS_DoD- 20230228-Email-1 GA- AMSA_AHS_DoD- 20230228-Attachment GA-AMSA- 20230523-Email

Member of Parliament	GA-BM	Letter sent out with activity sheet 24.02.23 08.03.2023 Spoke with admin and noted COOPER ENERGY looks forward to meeting the Member for Western Victoria region as the opportunity arises 21.04.2023 email sent with new website link	anti-collision measures and provided a list of collision risk mitigation measures.	No claims or objections have been raised with the proposed activity	COE- Coastal_Communi- ties-2023-Letter COE-All-Activities- 2023-Update GA-BM-20230308- Email GA-BM-20230421- Email GA-BM-20230323- Email	GA-AMSA- 20230703-Email GA-AMSA- 20230704-Email
Colac Otway Shire	GA-CS	Letter sent 17.02.23 with activity sheet Email sent 25.04.23 with new website link Email sent 09.05.23 with record of meeting. COOPER ENERGY: provided overview of ongoing CHN operations and described subsea production, risks of hydrocarbon spill, highlighted primary activity ongoing production, and discussed emergency response preparedness. CS: see no issues but their primary interest for council is the fishing industry, requested Cooper reaches out to Apollo Bay Fisherman's Co-op and Otway Climate Emergency Action Network (OCEAN)	Email auto response 17.02.23 05.05.2023 Meeting - no objections or claims. Request COOPER ENERGY consult with Apollo Bay Fisherman's Co-op (ABFC) and OCEAN are reasonable and will be actioned	Confirmed COOPER ENERGY will consult with ABFC and OCEAN. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities- 2023-Update COE-FN_Shires- 2023-Letter GA-CS-20230217- Email GA-CS-20230217- Email-2 GA-CS-20230425- Email GA-CS-20230427- Email GA-CS-20230509- Email	
Department of Agriculture, Fisheries and Forestry - Biosecurity	GA-DAWE	Email sent with 2023 activity sheet 24.02.23 27.03.23 attachment: 14.04 meeting agenda	24.02.23: Failed delivery 24.02.23: Failed delivery 20.03.2023: email provides best contact 27.03.2023: Contact made with John Elson 27.03.2023: Follow up with days available for meeting (BMG EP)	No objections or claims - see GA-DAWE_SC for continuation of discussions	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities- 2023-Update GA-DAWE- 20230224-Email-2 GA-DAWE- 20230327-Email GA-DAWE- 20230327-Email-2 GA-DAWE- 20230327- Attachment GA-DAWE- 20230412-Email GA-DAWE_FISH- 20220331-Email COE-All-Activities- 2023-Update GA-DAWE_FISH- 20230228-Email
DAFF - Fisheries	GA-DAWE_FISH	31.02.2023 Email sent with Cooper Energy Activity Update for 2022. Email sent with 2023 activity sheet 28.02.23	No response	No response- The Australian Fisheries Management Authority (AFMA) is responsible for the day-to-day management and compliance of Commonwealth fisheries.	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



DCCEEW - Underwater cultural heritage	GA-DCCEEW_UCH-20230224-Email	Email sent with 2023 activity sheet 24.02.23 Email sent 05.06.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update GA-DCCEEW_UCH-20230224-Email GA-DCCEEW_UCH-20230605-Email
District Council of Grant	GA-DCG	Email sent 20.04.2023 with new website link 30.04.23: COOPER ENERGY thanked for the meeting and for passing on (SARLAC) contact details	Auto response received 20.04.23 Response received 21.04.2023. Executive Assistant invited COOPER ENERGY to have a meeting with the mayor and the tourism manager 21.04.23: Confirmed the meeting time with Mayor and DCG 230.04.23: DCG thanked for the meeting and shared more information	No objections or claims. Request to consult with SARLAC reasonable and will be actioned	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-DCG-20230420-Email GA-DCG-20230420-Email-2 GA-DCG-20230421-Email-1 GA-DCG-20230421-Email-2 GA-DCG-20230421-Email-3 GA-DCG-20230430-Email
DEECA - Biosecurity and Agriculture Services	GA-DEECA-BAS	Emails relate to BMG Gippsland activities	Emails relate to BMG Gippsland activities	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-DEECA-BAS-20230421-Email
DEECA - Biodiversity Division	GA-DEECA-BD	Email sent with 2023 activity sheet 24.02.23	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-DoTPV_DEECA_DJSIR_PV_VFA_TSV-20230224-Email 1
DEECA - Earth Resources Regulation	GA-DEECA-ERR / GA-DJPR-ERR	Email sent 23.05.2022 - EP pre-submission meeting 03.06.2022 Noted points raised in email of 03.06.2022 would be provided for in the EP submission Email sent 09.09.2022 with Stakeholder Consultation – query Email sent with 2023 activity sheet 24.02.23 Invitation received 17.03.2023 to the annual meeting with ERR 21.04.2023 Thanked DEECA and noted the pipelines function remains with DEECA as part of the Energy Group	03.06.2022 post meeting notes requesting outline of project impacts on climate change 03.10.23. Advised that the pipelines function remains in part with the Energy Group within DEECA No objections or claims	No objections or claims Reasonable request for climate change impacts to be included in EP	Confirmed climate change impacts would be provided for in the EP submission. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-DJPR-ERR-20220523-Email GA-DJPR-ERR-20220909-Email GA-DJPR-ERR-20220601-Email GA-DoTPV_DEECA_DJSIR_PV_VFA_TSV-20230224-Email 1 COE-All-Activities-2023-Update GA-DEECA-ERR-20230310-Email GA-DJPR-ERR-20230317-Email
DEECA - Victorian wildlife emergencies	GA-DEECA-WE	Email sent with 2023 activity sheet 24.02.23 21.04.23: Thanked the information	Auto response - Contact on leave until 10th March 10.03.23: reiterated the pipelines function remains with DEECA. No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-DoTPV_DEECA_DJSIR_PV_VFA_TSV-20230224-Email 1

Department of Industry Science and Resources	GA- DISR	Email sent with 2023 activity sheet 10.03.23	No response		COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update GA- DoTPV_DEECA_ DJSIR_PV_VFA_ TSV-20230224- Email-2 GA- DoTPV_DEECA_ DJSIR_PV_VFA_ TSV-20230421- Email
DJSIR - Regional Development Victoria (RDV)	GA- DJSIR- RDV	Email sent with 2023 activity sheet 24.02.23 11.07.2023 Email sent to RDV Director with new website link	No response received		COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA- DoTPV_DEECA_ DJSIR_PV_VFA_ TSV-20230224- Email 1 GA- DoTPV_DEECA_ DJSIR_PV_VFA_ TSV-20230224- Email-2 GA-DJSIR-RDV-20230224-Email GA-DJSIR-RDV-20230224-Email-2 COE-All-Activities-2023-Update GA-DJSIR-RDV-20230227-Email DoTPV_DEECA_ DJSIR_PV_VFA_ TSV-20230711- Email
Department of Defence (DOD)	GA-DoD	Email sent with activity sheet 28.02.23 Attachment: presentation on activities at BMG. Timing-Vessels-Subsea Work. (BMG EP) 08.07.2023 New email sent to offshore.petroleum@defence.gov.au and to specific contact named email, noting earlier bounce back 08.07.2023 Re-sent with reduced sized attachments (no bounce back this time)	Delivery failure on 27.02.2023 Delivery failure on 28.02.2023 Delivery failure on 08.07.23: file size too large to offshore.petroleum@defence.gov.au Delivery failure on 08.07.23: file size too large	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update GA- AMSA_AHS_DoD-20230228-Email-1 GA- AMSA_AHS_DoD-20230228-Attachment GA-DOD-20230227-Email GA-DOD-20230228-Email GA-DoD-

Director of National Parks (DNP)	GA-DoNP	First Email of 2022 sent 31.03.2022 Attached the 2022 Cooper Energy Activities 28.07.2022 Confirmed no EP under development inside or immediately adjacent to any AMPs Email sent with 2023 activity sheet 28.02.23 The attached Information for DNP shows the AMPs which have the potential to be impacted in the unlikely event of a spill of hydrocarbons.	Exchange of emails to align the understanding of consulting DNP before developing any EP No response to 2023 mailout	No claims or objections have been raised with the proposed activity Reasonable request made for clarity on whether consultation is being requested	Confirmed understanding of consultation requirements. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	20230708-Email GA-DoD- 20230708-Email-2 GA-DoD- 20230708-Email-3 GA-DoD- 20230708-Email-4 COE-All-Activities-2023-Update GA-DoNP-20230331-Email-1 GA-DoNP-20230331-Email-2 GA-DoNP-20230331-Attachment COE-All-Activities-2023-Update GA-DoNP-20230228-Email GA-DoNP-20230228-Attachment
Department of Transport and Planning (DTP) – Victoria (including Major Road Projects Victoria)	GA-DOTPV / GA-MRPV	Email sent 05.04.2022 with Cooper Energy Activity Update for 2022 COOPER ENERGY checking that DoT has access to the latest tactical response plans Email sent with 2023 activity sheet 24.02.23 Meeting notes from 18.04.2023 - COOPER ENERGY gave overview of activities, BMG decommissioning timing and spill risks - Discussed planning for forthcoming drill 05.07.2023 Drill held with DTP focussed on BMG - discussed dispersant stock and availability - primary impact area for drill was east of GunaiKurnai RAP area . -recommendation by DTP that a heritage specialist could do initial assessment via the restricted access Victorian Aboriginal Heritage Register and help engage with the relevant Traditional Owners	2022 emails: Appreciated the visit and looked forward to the desktop exercise in 2023. 2023 emails: Spill drill scoping and spill drill meeting notes 16.06.23: DTP Vic thank you response 05.07.2023 Drill held with DTP focussed on BMG - discussed dispersant stock and availability - primary impact area for drill was east of GunaiKurnai RAP area . -recommendation by DTP that a heritage specialist could do initial assessment via the restricted access Victorian Aboriginal Heritage Register and help engage with the relevant Traditional Owners 05.07.2023 DTP offered to potentially provide additional TO contacts	No objections or claims Suggestion to consult with additional TO groups on potential spill response is reasonable and will be actioned upon receipt of contacts	Contacted DTP regarding additional TO contacts for eastern Victoria. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	GA-DOTPV_DEECA_DJSIR_PV_VFA_TSV-20220406-Email Victoria-VFA-TMSV-20220406-Email-1 GA-DELWP-Dot-DJPR-RDV-Parks Victoria-VFA-TMSV-20220406-Email-2 GA-DOTPV-20220803-Email GA-DOTPV-202203.08-Victoria-OPEP GA-DOTPV-202203.08-BMG-OPEP GA-DOTPV-202203.08-Email-2 GA-DOTPV-20221207-Email GA-DOTPV-20221207-Email-2 GA-DOTPV-20221208-Email GA-DOTPV-

						20221208-Attachment COE-All-Activities-2023-Update GA-DELPD-DOT-DJPR-RDV-Parks GA- DoTPV_DEECA_DJSIR_PV_VFA_TSV-20230224-Email 1 GA-DOTPV-20230418-Meeting_notes GA-DOTPV-20230418-OPEP_drill GA-DOTPV-20230418-ppt_presentation GA-DOTPV-20230412-Email GA-DOTPV-20230616-Email GA-MRPV-20230710-Email GA-MRPV-20230714-Email GA-MRPV-20230808-Email
Member of Parliament	GA-DTFMW	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter
Greater Geelong City	GA-GGC	Letter sent 16.02.23 with activity sheet 25.04.2023 Email with new website links	Email auto response 17.02.23 No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update
Glenelg Shire Council (Portland)	GA-GSC	Email and 2023 activity sheet sent 03.03.23 Email sent 20.04.23 with new website link and follow up noting incorrect cc 30.04.23: COOPER ENERGY thanked for the meeting on the 27th and confirmed the advertisement in the Portland Observer	Email sent 01.05.23 Fw Email 07.03.23 of failed delivery receipts 27.05.2023 Meeting: Requested to be kept advised, and to send OPEP when ready	Requests to be kept informed and to share OPEP are reasonable and will be actioned No objections or claims	Confirmed COOPER ENERGY will share OPEP with Glenelg SC and keep them informed of milestones. COOPER ENERGY has provided further clarity and	COE-All-Activities-2023-Update GA-GSC-20230303-Email GA-GSC-20230307-Email GA-GSC-20230501-Email

					opportunity to respond, and this is captured in Table 11-6	GA-GSC-20230420-Email
Member of Parliament	GA-GTMWV	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	16.05.23: Automatic reply	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update GA-GTMWV-20230516-Email GA-GTMWV-20230516-Email-2
Member of Parliament	GA-JMCMWVR	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update GA-JMCMWVR-20230516-Email
Mornington Peninsula Shire	GA-MPS	Letter sent 17.02.23 with activity sheet Email sent 25.04.23 with website links	Email auto response 17.02.23 Email auto response 25.04.23 14.05.23: Thanked COOPER ENERGY for the communication and have FW the email to parties managing any gas interests impacting the community No further response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update COE-FN_Shires-2023-Letter GA-MPS-20230217-Email GA-MPS-20230425-Email GA-MPS-20230425-Email-2 GA-MPS-20230514-Email
Moyne Shire Council	GA-MSC	Email sent 17.02.23 Email re-sent 21.02.23 with activity sheet 09.03.23: Checked to see if previous email with attached activities was received Email sent 25.04.23 with new website link Email sent 29.05.23 to notify availability to meet and update planned activities 02.06.2023 Meeting: Provided background to the consultation and environmental plan, and noted any new drill required new environmental plant(s) and consultation but no firm plans at this time. 04.06.23 Email sent with record of meeting.	21.02.23: Undeliverable email - could not reach intended recipients 21.02.23: Requested the attachment in an alternate format and provided 09.03.23: thanked COOPER ENERGY and apologised for missing the email Auto response 25.04.23 Auto response 26.04.23 02.06.2023 Meeting: Noted community interest in oil and gas industry General comment that community benefits from energy industry do not match local risk and impact No objections or claims given ongoing activities Requested COOPER ENERGY consult with Fight the Bight Port Fairy Requested map shown relative location of producing wells with MSC 06.06.23: Thanked for the summary and have no updates but requested to keep in	No objections or claims The following reasonable requests will be actioned: - provision of map showing offshore wells and Moyne Shire boundary - consult with Fight for the Bight Port Fairy	Provided map of well locations with MSC boundary, and confirmed COOPER ENERGY would consult with Fight for the Bight Port Fairy. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update GA-MSC-20230221-Email GA-MSC-20230221-Activity GA-MSC-20230221-Email-2 GA-MSC-20230307-Email GA-MSC-20230307-Email-2 GA-MSC-20230309-Email GA-MSC-20230309-Email-2 GA-MSC-20230425-Email-1 GA-MSC-20230425-Email-2 GA-MSC-20230426-Email GA-MSC-

			contact regarding activities within their region			20230529-Email GA-MS- 20230604-Email GA-MS- 20230606-Email
First Nations Legal & Research Services	GA-NTSV	Email sent with 2023 activity sheet 03.03.23	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update GA-NTSV- 20230303-Email
National Native Title Tribunal (NNTT)	OI-NNTT	Email sent with 2023 activity sheet 03.03.23 Web form sent 16.03.23	Auto response received on 03.03.2023 No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update OI-NNTT- 20230303-Email-1 OI-NNTT- 20230303-Email-2
Port Campbell Police	GA-PCP	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update GA-PCP- 20230516-Email
Member of Parliament	GA-POV / GA-RBMP-SWC	Letter sent out with activity sheet 03.03.23 Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update GA-POV- 20230516-Email
Parks Victoria	GA-PV	Email sent with 2023 activity sheet 24.02.23 Email sent 18.05.23 with new website link (to named contact) and attached state oil pollution response guidance note 06.06.23 confirmed to continue to keep them informed (BMG EP)	31.05.2023 Confirmed contact for Parks Vic eastern region and requested to be kept informed (BMG EP)	No objections or claims Request to be kept informed reasonable, and will be actioned	Confirmed COOPER ENERGY will keep PV Eastern Region informed. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update GA- DoTPV_DEECA_ DJSIR_PV_VFA_ TSV-20230224- Email 1 GA-PV-20230518- Email GA-PV-20230606- Email GA-PV-20230518- Attachment
Member of Parliament	GA-RRMP	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	16.05.23: Receipt acknowledged.	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update GA-RRMP- 20230516-Email GA-RRMP- 20230516-Email-2

Shire of Corangamite	GA-SC	Letter sent out by email with activity sheet 03.03.23 25.04.2023 Email sent to CEO Email sent 22.05.23 with new website link 29.05.2023 email sent to Director of Sustainable Development to check on availability for meeting 01.06.2023 Understood that new CEO would likely be very busy and will try to catch up next visit Email sent 18.07.23 to check availability for a meeting 20.07.23 Meeting: Went over the CHN activities and related environment plan using the activities website as presentation material Noted risks and impacts Email sent 24.07.23 with meeting record.	31.05.23: Fwd email to the new CEO and is not available proposed week dates. 31.05.2023 CSC called Dir Sust Development called advising she was out of town and unable to meet 01.06.2023 Email from CSC passing on thanks for chat and advising that the new CEO will be asked to meet if available, noting he has only just started. 18.07.23: asked if the suggested time is suitable for a meeting with COOPER ENERGY 18.07.23: will send an invite for the meeting 20.07.23 Meeting: Supportive of COOPER ENERGY's operations provided COOPER ENERGY were fully compliant. Noted importance of gas to local industry and welcomed additional investment, appreciated COOPER ENERGY's support and interest in the local community 24.07.23: Thanked and appreciated meeting COOPER ENERGY and confirmed the meeting record	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update GA-SC-20230303-Email GA-SC-20230425-Email GA-SC-20230529-Email GA-SC-20230531-Email GA-SC-20230601-Email GA-SC-20230724-Email GA-SC-20230718-Email GA-SC-20230718-Email-2 GA-SC-20230718-Email-3
Surf Coast Shire	GA-SCS	Letter sent 16.02.23 with activity sheet 25.04.23: COOPER ENERGY directed to COOPER ENERGY Sustainability report and shared the new website link	Email auto response 17.02.23 08.03.23: Email to understand if the activities quantify and report on scope 3 emissions (downstream combustion of products) and what are the long-term plans to achieve net objectives Email auto response 25.04.23 Email auto response 25.04.23 Email auto response 25.04.23 28.04.23 advise: to use info@surfcoast.vic.gov.au; to inform about COOPER ENERGY Victoria activities. Noted council opposes any seismic testing and oil and gas development in the Otway Basin 30.04.23: email auto response 01.05.23: Thanked COOPER ENERGY and will contact for any additional info if required	No specific objections or claims related to activities under the EP, but noted that Council opposes seismic data acquisition and oil and gas development in the Otway Basin	Acknowledged council's request for directing of emails, and confirmed council's position on seismic data acquisition and Otway oil and gas developments would be noted in the EP. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update COE-FN_Shires-2023-Letter GA-SCS-20230217-Email GA-SCS-20230308-Email GA-SCS-20230425-Email-1 GA-SCS-20230425-Email-2 GA-SCS-20230428-Email GA-SCS-20230425-Email-3 GA-SCS-20230430-Email GA-SCS-20230501-Email
Transport Safety Victoria (Maritime Safety)	GA-TSVMs	Email sent with 2023 activity sheet 24.02.23 05.05.23: Forward email to TSVMs about activity that may be of interest (BMG EP) 09.05.23: COOPER ENERGY acknowledged email address	09.05.23: requested info be sent to different email address in future.	No claims or objections have been raised with the proposed activity.	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	COE-All-Activities-2023-Update GA-DoTPV_DEECA_DJSIR_PV_VFA_TSV-20230224-Email 1 GA-TSVMs-20230505-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



						GA-TS/MS- 20230509-Email
Victorian Fisheries Authority (VFA)	GA-VFA	Email sent with 2023 activity sheet 24.02.23 Email sent 12.06.23 requesting if available to meet and discuss the projects and VFA's roles and responsibilities Email sent 18.07.23 checking availability for a meeting to discuss VFA's functions and interactions with fisheries Email sent 24.07.23 to either arrange a meeting or call	Out of office received 24.02.23 No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update GA- DoTPV DEECA_ DJSIR_PV_VFA_ TSV-20230224-Email 2 GA- DoTPV DEECA_ DJSIR_PV_VFA_ TSV-20230224-Email 1 GA-VFA- 20230612-Email GA-VFA- 20230724-Email
Warramboul City Council	GA-WCC	25.04.23 email sent with new website link 05.05.2023 Meeting: Provided overview of activities using activities website for presentation. 05.05.2023 Met manager of Flagstaff Hill Maritime Museum - will keep an eye out for things that might be used for display of Oil and Gas industry. 08.05.23 email sent with draft record of key points from the meeting for review.	17.02.23: Auto response 21.04.23: Requesting if interested in placing an educational display for visitors and are looking to expand their exhibiting to display a modern maritime. Email 27.04.2023 with the Mayor and the CEO. 05.05.2023 Meeting: Council had no claims or objections, noted that community interest was higher for new drilling or seismic surveys.	No claims or objections have been raised with the proposed activity Museum manager request for display items related to oil and gas activity reasonable and will be looked at opportunistically.	Advised Museum Manager COOPER ENERGY would keep an eye out for items that could be used for display. COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement.	GA-WCC- 20230217-Email GA-WCC- 20230421-Email GA-WCC- 20230425-Email GA-WCC- 20230427-Email GA-WCC- 20230505-Email GA-WCC- 20230508-Email
Other						
Barwon Coast Committee of Management	OI-BCCM	Letter sent out with activity sheet 24.02.23 Email sent 08.03.23 with new website link Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update OI-BCCM- 20230308-Email OI-BCCM- 20230516-Email
Peterborough Residents Group	LR-PRG	Letter sent out with activity sheet 24.02.23	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



Warrnambool Volunteer Coast Guard	OI-WVCG	Letter sent out with activity sheet 24.02.23	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update
Oil and Gas						
Woodside	OG-BHP	Email sent with 2023 activity sheet 01.03.23 Email sent 23.05.23 with new website link 26.05.23: COOPER ENERGY thanked Woodside	02.03.23: Woodside replied informing the decommissioning reports progress and Minerva wells P&A status 25.05.23: Acknowledges receipt of the consultation info and has no further comments	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update OG-BHP-20230302-Email OG-BHP-20230523-Email OG-BHP-20230525-Email OG-BHP-20230526-Email
Beach Energy	OG-BPT	Email sent with 2023 activity sheet 28.02.23	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update OG-BPT-20230228-Email
Bridgeport Pty Ltd (New Hope Group)	OG-BNHG	Letter sent out with activity sheet 24.02.23 Email sent 12.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update OG-BNHG-20230512-Email
Conoco Phillips	OG-CP	Email sent with 2023 activity sheet 28.02.23 11.05.23: COOPER ENERGY requested Conoco Phillips to continuing updating them on progress and link to website	11.05.23: Attached the ConocoPhillips Australia Otway Exploration Drilling Program Project Update - summarises the next phase of the Environmental Plan development and consultation	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities-2023-Update OG-CP-20230228-Email OG-CP-20230511-Email OG-CP-20230511-Attachment OG-CP-20230511-Email-2
TGS	B-TGS	Email sent 20.10.2022 with 2022 Activities update / timing check Attachment: 2002 Cooper Energy Activities Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	TGS responded informing about their activities for the same period 23.02.23: Confirmed to keep COOPER ENERGY updated with schedule	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	B-TGS-20221020-Email B-TGS-20221020-Attachment COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update B-TGS-20230213-Email B-TGS-20230215-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



3D Oil Limited	OG-TOL	Letter sent 16.02.23 with activity sheet Email sent 12.05.23 with new website link Email sent 17.08.23 inviting to consult on COOPER ENERGY projects, providing further info on activities and why they may be relevant	No response Automatic response received 17.08.23, no delivery notification was sent by the destination server	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE- Coastal_Communi ties-2023-Letter COE-All-Activities- 2023-Update OG-TOL- 20230512-Email OG-TOL- 20230817-Email OG-TOL- 20230817-Email-2	B-TGS-20230223- Email
Recreational Fishing							
Victoria Game Fishing Club	RI- VGFC	letter sent 16.02.23 with activity sheet Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communi ties-2023-Letter COE-All-Activities- 2023-Update RI-VGFC- 20230516-Email	
Victorian Recreational Fishers Association (VRFish)	RI-VRFA	Email sent with 2023 activity sheet 28.02.23 Email sent 05.06.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	RI-VRFA- 20230228-Email RI-VRFA- 20230605-Email	
Research Group							
Blue Whale Study	OI-BWS	Email sent 24.02.23 including 2023 activity update Email sent 08.04.22 including 2022 activity update Email sent 13.03.2023 including aerial surveys from Dec/Jan in the Gippsland. Last response:14.03.2023 Email sent 21.04.23 with new website link	14.03.2023 Acknowledged receipt of sightings 16.03.2023 Noted intent to review sightings	No claims or objections have been raised with the proposed activity	COOPER ENERGY have historic arrangement to share sightings data with Blue Whale Study. COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	OI-BWS- 20230224-Email OI-BWS- 20230314-Email OI-BWS- 20230408-Email COE-All-Activities- 2023-Update OI-BWS- 20230421-Email	
CO2CRC	OI- COTCR C	Letter sent out with activity sheet 24.02.23 Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	Coastal_Communi ties-2023-Letter COE-All-Activities- 2023-Update OI-COTCRC- 20230504-Email	
Deakin University - School of Life and Environmental Sciences	OI-DU- SLES_J A	Email sent with 2023 activity sheet 24.02.23 Email sent 04.05.23 with new website link 09.05.2023 COOPER ENERGY provided summary of decommissioning. Interested in how COOPER ENERGY support continuation of studies in the region (BMG EP)	09.05.2023 Deakin happy to discuss further	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-All-Activities- 2023-Update OI-DU-SLES_JA- 20230224-Email OI-DU-SLES_JA- 20230408-Email ** OI-DU-SLES_JA- 20230504-Email	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



						OI-DU-SLES_JA-20230509-Email
Deakin University - School of Life and Environmental Sciences (Warrnambool Campus)	OI-DUSLES WC	Letter sent out with activity sheet 24.02.23 Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update OI-DUSLESWC-20230504-Email
Fishwell Consulting	OI-FC	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	Email bounce back received 16.05.23 resent to alternate email address 16.05.23 16.05.23: Follow up email bounce back from one address only; other address ok No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update OI-FC-20230516-Email OI-FC-20230516-Email-2 OI-FC-20230516-Email-3 OI-FC-20230516-Email-4
Fisheries Research and Development Corporation	OI-FRDC	Letter sent out with activity sheet 24.02.23 Email sent 01.06.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update OI-FRDC-20230601-Email
Recreation Groups / Industry						
Apollo Bay Dive Centre and Surf n Fish	RI-ABDCSF	Letter sent out with activity sheet 24.02.23 Email sent 22.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-ABDCSF-20230522-Email
Apollo Bay Sailing Club	RI-ABSC	Letter sent 16.02.23 with activity sheet Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-ABSC-20230516-Email
Apollo Bay Surf & Kayak	RI-ABSK	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	Letter 1 returned to sender Letter 2 returned to sender No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



						COE-All-Activities-2023-Update RI-ABSK-20230516-Email
Australian Camps Association	RI-ACA	Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update RI-ACA-20230504-Email
Anglesea Motor Yacht Club	RI-AMYC	Letter sent 16.02.23 with activity sheet Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-AMYC-20230516-Email
Academy of Scuba	RI-AS	Letter sent 16.02.23 with activity sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-AS-20230504-Email
Boating Industry Association of Victoria	RI-BIAV	Letter sent 16.02.23 with activity sheet Letter and activity sheet resent to alternative address 19.04.23 Email sent 30.05.23 with new website link	Letter returned to sender No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-BIAV-20230530-Email
Dive Industry Association of Australia	RI-DIAA	Letter sent out with activity sheet 24.02.23 Email sent 12.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-DIAA-20230512-Email
Diving Industry of Victoria	RI-DIV	Letter 16.02.23 and activity sheet Email sent 12.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-DIV-20230512-Email
Ocean Racing Club of Victoria	RI-ORCV	Email and 2023 activity update sheet sent 08.03.23 Email sent 12.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update RI-ORCV-20230308-Email RI-ORCV-20230512-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Port Campbell Rifle Range	RI-PCRR	Letter sent out with activity sheet 24.02.23 Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-PCRR-20230504-Email
Port Fairy Yacht Club	RI-PFYC	Letter sent 16.02.23 with activity sheet Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-PFYC-20230516-Email
Peterborough Golf Club	RI-PGCG	Email with links to new website sent 1.6.23	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-All-Activities-2023-Update RI-PGCG-20230601-Email
Point Leo Boat Club	RI-PLBC	Letter sent 16.02.23 with activity sheet Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-PLBC-20230516-Email
Paddle Victoria	RI-PV	Letter 16.02.23 and activity sheet Email sent 12.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-PV-20230512-Email
Portland Yacht Club	RI-PYC	Letter sent 16.02.23 with activity sheet Email sent 16.05.23 with new website link	Letter returned to sender No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-PYC-20230516-Email
Rye Yacht Club	RI-RYC	Letter sent 16.02.23 with activity sheet Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed: consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-RYC-20230516-Email
SCUBA Divers Federation of Victoria	RI-SDFV	Letter sent out with activity sheet 24.02.23 Email sent 12.05.23 with new website link	Letter returned to sender No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-SDFV-20230512-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



Surf Sessions Surf School	RI-SSSS	Letter sent 16.02.23 with activity sheet Email with 2023 activity sheet sent 21.03.23 Email sent 04.05.23 with new website link	Letter returned to sender No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-SSSS-20230504-Email RI-SSSS-20230321-Email
Surfing Victoria	RI-SV	Letter and 2023 activity sheet sent 03.03.23 Email sent 05.06.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-SV-20230605-Email
Windsurfing Victoria	RI-WV	Letter 16.02.23 and activity sheet Email sent 12.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-WV-20230512-Email
Warrambool Yacht Club	RI-WYC	letter sent 16.02.23 with activity sheet Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update RI-WYC-20230516-Email
Surf Life Saving Clubs						
Apollo Bay Surf Lifesaving Club	SL-APBSLS	Letter sent 21.02.23 and 2023 activity update sheet Email sent 16.05.23 with new website link Follow up: 16.05.23	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-APBSLS-20230516-Email SL-APBSLS-20230516-Email-2
Anglesea Surf Life Saving Club	SL-ASLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	04.05.23: Automatic reply No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-ASLSC-20230504-Email SL-ASLSC-20230504-Email-2
Bancoora Surf Life Saving Club	SL-BASLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 30.05.23 with website links	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update

						SL-BASLSC-20230530+Email
Fairhaven Surf Life Saving Club	SL-FASLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-FASLSC-20230504+Email
Gunnamatta Surf Life Saving Club	SL-GSLSC	Letter sent 21.02.23 and 2023 activity update sheet Replacement letter sent to alternate address 14.03.23 and 2023 activity update sheet Third letter and 2023 activity sheet sent to alternate address 19.04.23 Email sent 04.05.23 with new website link	Letter returned to sender Second letter returned to sender No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-GSLSC-20230504+Email
Go surf school	SL-GSS	Letter sent out with activity sheet 24.02.23 Email sent 12.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-GSS-20230308+Email SL-GSS-20230512+Email
Jan Juc Surf Life Saving Club	SL-JJLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-JJLSC-20230504+Email
Lower North Coast Branch - Surf Life Saving NSW	SL-LNCB	Email sent 04.07.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	SL-LNCB-20230704+Email
Lorne Surf Life Saving Club	SL-LSLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-LSLSC-20230504+Email
Life Saving Victoria	SL-LSV	Letter sent out with activity sheet 24.02.23 Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-LSV-20230504+Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Ocean Grove Surf Life Saving Club	SL-OGSLSC	Letter sent 21.02.23 and 2023 activity update sheet Replacement letter sent to alternate address 14.03.23 with 2023 activity update sheet Email sent 04.05.23 with new website link	Letter returned to sender	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-OGSLSC-20230504-Email
Port Campbell Surf Life Saving Club	OI-PCSLSC / SL-PCSLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link 04.07.23: COOPER ENERGY thanked PCSLSC for their response and confirmed to provide updates	01.07.23: Thanked for the correspondence and the update regarding Cooper Energy's Environmental plan. Does not believe there will be an impact to their operations, but are happy to be updated on operations, passing info on to their committee.	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update OI-PCSLSC-20230504-Email OI-PCSLSC-20230701-Email OI-PCSLSC-20230704-Email
Port Fairy Surf Lifesaving Club	SL-PFSLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-PFSLSC-20230504-Email
Portland Surf Life Saving Club	SL-PSLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-PSLSC-20230504-Email
13th Beach Barwon Heads Surf Life Saving Club	SL-TBBHSLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-TBBHSLSC-20230504-Email
Torquay Surf Lifesaving Club	SL-TSLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-TSLSC-20230504-Email
Warramboul Surf Life Saving Club	SL-WBSLSC	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE-Coastal_Communities-2023-Letter COE-All-Activities-2023-Update SL-WBSLSC-20230504-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



Wye River Surf Life Saving Club	SL- WRSLS C	Letter sent 21.02.23 and 2023 activity update sheet Email sent 04.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communi- ties-2023-Letter COE-All-Activities- 2023-Update SL-WRSLS- 20230504-Email
Tourism						
12 Apostles Helicopters	TI-12AH	Letter sent out with activity sheet 24.02.23 25.04.2023 Emailed acknowledgment, shared new website, and noted interest in supplying aviation services Email sent 17.08.23 providing info why OE activities may be relevant and requested a response whether further correspondence is required	Response received 06.03.2023. Acknowledge the info sent and offered helicopters services to COOPER ENERGY	No objections or claims Request to provide helicopter services reasonable, and actioned by sharing internally with Operations team	Noted that 12 Apostles contacts and services will be shared internally with COOPER ENERGY operations team COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communi- ties-2023-Letter COE-All-Activities- 2023-Update TI-12AH- 20230425-Email TI-12AH- 20230817-Email
Apollo Bay Visitor Information Centre	TI- ABVIC	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	TI-ABVIC- 20230516-Email
Great Ocean Road Coast and Parks Authority	TI- GORCP A	Letter sent out with activity sheet 24.02.23 Email sent 15.05.23 with new website link	15.05.23: Automatic reply	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	TI-GORCPA- 20230515-Email
Great Ocean Road Regional Tourism	RI- GCRRT	Letter 22.02.23 and activity sheet Email sent 03.05.23 with new website link 16.05.23: follow up email	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communi- ties-2023-Letter COE-All-Activities- 2023-Update RI-GCRRT- 20230503-Email RI-GCRRT- 20230516-Email
Great Ocean Road Tourist Park	RI- GORTP	Letter sent out with activity sheet 24.02.23 Email sent 16.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	COE- Coastal_Communi- ties-2023-Letter COE-All-Activities- 2023-Update RIGORTP- 20230516-Email
Port Campbell Visitor Information Centre	RI- PCVIC	Email sent 12.05.23 with new website link	No response	No claims or objections have been raised with the proposed activity.	COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	RI-PCVIC- 20230512-Email
Twelve Apostles Tourism & Business Group	RI- TATBG	Email sent 17.02.23 Email sent 16.05.23 with new website link	Auto response received 17.02.23 16.05.23: Auto-reply No response	No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	RI-TATBG- 20230217-Email RI-TATBG- 20230217-Email-2 RI-TATBG- 20230217-Email-1

Warrambool visitor info centre	TI-WVIC	Letter sent out with activity sheet 24.02.23 Email sent 12.05.23 with new website link	No response		No claims or objections have been raised with the proposed activity	COOPER ENERGY considers that the stakeholder's interests have been adequately addressed; consultation will continue in line with ongoing engagement	RI-TATBG-20230516-Email RI-TATBG-20230516-Email-2 COE- Coastal_Communities-2023-Letter COE-All-Activities-2023-Update TI-WVIC-20230512-Email
Victorian Tourism Industry Council	RI-VTIC	Email sent 17.02.23 03.03.23 Meeting. VTIC was interested in sponsorship and financial partnership opportunities between VTIC and COOPER ENERGY. VTIC did not have any comments on the material sent. 08.03.23: Will discuss email internally and revert Email sent 16.05.23 with new website link	Email sent 17.02.23 20.02.23: requested a chat to explore opportunities. Meeting organised by COOPER ENERGY		No objections or claims Request for partnership with COOPER ENERGY reasonable, and will be considered	Committed to revert on partnering potential. COOPER ENERGY has provided further clarity and opportunity to respond, and this is captured in Table 11-6	RI-VTIC-20230220-Email RI-VTIC-20230308-Email RI-VTIC-20230516-Email

Additional opportunity was provided to each of the following relevant persons to be consulted and to seek out additional potentially relevant persons. No further suggestions were received regarding additional potentially Relevant Persons. This significant sampling combined with other extended enquiry yielding no new Relevant Persons supports our determination that sufficient effort has been made. One new Relevant Person was identified during consultation on another project who had an interest in existing operations.

Table 11-6: Relevant Persons Consultation logged post mid-August 2023

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
Businesses							
B-ABCC	Apollo Bay Chamber of Commerce	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
B-ABCC	Apollo Bay Chamber of Commerce	2023-08-18	Email	In	Delivery receipt	N/A	N/A
OI-AOS	Australian Oceanographic Services Pty Ltd	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
OI-AOS	Australian Oceanographic Services Pty Ltd	2023-08-18	Email	In	Delivery receipt	N/A	N/A
OI-TA	Timboon Action Group	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
OI-TA	Timboon Action Group	2023-08-18	Email	In	Delivery receipt	N/A	N/A
Commercial fisheries							
CF-ACA	Abalone Council Australia	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-ACA	Abalone Council Australia	2023-08-18	Email	In	Delivery receipt	N/A	N/A
CF-ACV	Abalone Council Victoria	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-AVCZ	Abalone Victoria (Central Zone) Ltd (AVCZ)	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-AVCZ	Abalone Victoria (Central Zone) Ltd (AVCZ)	2023-08-18	Email	In	Delivery receipt	N/A	N/A
CF-AS	Allfresh Seafood	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-ABFC	Apollo Bay Fishermen's Cooperative	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-ABFC	Apollo Bay Fishermen's Cooperative	2023-08-18	Email	In	Read receipt	N/A	N/A
CF-ASBTIA-PL	Australian Southern Bluefin Tuna Industry Association	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-ASBTIA-PL	Australian Southern Bluefin Tuna Industry Association	2023-08-18	Email	In	Delivery receipt	N/A	N/A
CF-AWF	Australian Wildcatch Fishing	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
					- concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted		
CF-AWF	Australian Wildcatch Fishing	2023-08-21	Email	In	Read receipt	N/A	N/A
CF-CFA	Commonwealth Fisheries Association (CFA)	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-CFA	Commonwealth Fisheries Association (CFA)	2023-08-18	Email	In	Delivery receipt	N/A	N/A
CF-PCPFA	Port Campbell Professional Fishermen's Association	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-PCPFA	Port Campbell Professional Fishermen's Association	2023-08-18	Email	In	Delivery receipt	N/A	N/A
CF-PPFA	Professional Fishermen's Portland Association	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-PPFA	Portland Professional Fishermen's Association	2023-08-18	Email	In	Read receipt	N/A	N/A
CF-SIA	Seafood Industry Australia	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-SIA	Seafood Industry Australia	2023-08-18	Email	In	Delivery receipt	N/A	N/A
CF-SIV	Seafood Industry Victoria (SIV)	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-SIV	Seafood Industry Victoria (SIV)	2023-08-21	Email	In	Read receipt	N/A	N/A
CF-SIV	Seafood Industry Victoria (SIV)	2023-09-06	Email	Out	Request for follow up meeting	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
CF-SIV	Seafood Industry Victoria (SIV)	2023-09-06	Email	In	Noted unavailable, but could potentially meet in October. Will send SIV's Offshore Energy Policy and letter regarding engagement.	N/A	N/A
CF-SIV	Seafood Industry Victoria (SIV)	2024-04-17	Email	In	Provided copy of information passed on to members	N/A	N/A
CF-SIV	Seafood Industry Victoria (SIV)	2024-04-18	Email	Out	Noted no feedback had been received from members, and that sufficient time and information had been made available to members.	N/A	N/A
CF-SARLAC	South Australian Rock Lobster Advisory Council Inc SARLAC	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-SARLAC	South Australian Rock Lobster Advisory Council Inc SARLAC	2023-08-18	Email	In	Read receipt	N/A	N/A
CF-SETFIA	South East Trawl Fishing Industry Association (SETFIA)	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-SETFIA	South East Trawl Fishing Industry Association (SETFIA)	2023-08-18	Email	In	Read receipt	N/A	N/A
CF-SETFIA	South East Trawl Fishing Industry Association (SETFIA)	2024-04-24	Email	In	Noted neither SSA or SETFIA had issues with the revision of the Otway or Gippsland offshore operations EPs	N/A	N/A
CF-SETFIA	South East Trawl Fishing Industry Association (SETFIA)				Asked that email be shared with member licence holders of the following fisheries. • South-east trawl fishery • Gillnet hook and trap fishery • Eastern zone rock lobster fishery • Central zone scallop fishery • Small pelagic fishery Details included: • Location • Purpose of consultation • Overview of activities • Link to webpages • Indicative timeline for consultation • Flexibility to allow additional time for consultation • Seeking other relevant persons • Noted consultation under Section 25 of OPGGS(E) Regulations • Noted respondents could request that sensitive information not be published • Provided opportunity for meeting	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
					Clear contact information for follow up including direct mobile number and email address		
CF-SETFIA	South East Trawl Fishing Industry Association (SETFIA)	2024-07-29	Email	In	Confirmed emails were sent.	N/A	N/A
CF-SETFIA	South East Trawl Fishing Industry Association (SETFIA)	2024-07-29	Email	Out	Sought confirmation of our understanding that emails went to members of: • SETFIA • SPFIA • SSIA • EastRock • Bass Strait Scallop Industry Association	N/A	N/A
CF-SETFIA	South East Trawl Fishing Industry Association (SETFIA)	2024-07-29	Email	In	Confirmed understanding	N/A	N/A
CF-SETFIA	South East Trawl Fishing Industry Association (SETFIA)	2024-09-03	Call	In	SETFIA confirmed that no responses were received from members.	N/A	N/A
CF-SRLL	Southern Rock Lobster Limited	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-SRLL	Southern Rock Lobster Limited	2023-08-18	Email	In	Delivery receipt	N/A	N/A
CF-TA	Tuna Australia	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-TA	Tuna Australia	2023-08-22	Email	In	Provided industry position statement	N/A	None, a commercial suggestion
CF-TA	Tuna Australia	2023-08-22	Email	Out	Noted we had responded to this in July, and given our assessment had showing there was no active fishing in the relevant fisheries, the setting up of an agreement was not warranted at this time. Still happy to discuss.	N/A	None, a commercial issue
CF-VSFA	Victorian Scallop Fisherman's Association	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
CF-VSFA	Victorian Scallop Fisherman's Association	2023-08-18	Email	In	Delivery receipt	N/A	N/A
Environment groups							

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
OI-BP3280	3280Warrnambool Beach Patrol	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
OI-BP3280	3280Warrnambool Beach Patrol	2023-08-21	Email	In	Auto response - out of office until 28 Aug	N/A	N/A
OI-BP3280	3280Warrnambool Beach Patrol	2023-12-21	Email	Out	Checking for beach cleanup dates in February 24	N/A	N/A
EG-ABL	Apollo Bay Landcare	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-ABL	Apollo Bay Landcare	2023-08-21	Email	In	Out of office auto reply	N/A	N/A
EG-ABL	Apollo Bay Landcare	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting being connected with members who may be interested in being consulted, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
EG-ACS	Australian Coastal Society - Victorian Chapter	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-ACS	Australian Coastal Society - Victorian Chapter	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-ACS	Australian Coastal Society -Victorian Chapter	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting being connected with members who may be interested in being consulted, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
EG-ACF	Australian Conservation Foundation	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-ACF	Australian Conservation Foundation	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-AMCS	Australian Marine Conservation Society	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
EG-AMCS	Australian Marine Conservation Society	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-EV	Environment Victoria	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-EV	Environment Victoria	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-EV	Environment Victoria	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting being connected with members who may be interested in being consulted, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
EG-FBPF	Fight for the Bight Port Fairy	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-FBPF	Fight for the Bight Port Fairy	2023-08-21	Email	In	Advised would follow up with call	N/A	N/A
EG-FBPF	Fight for the Bight Port Fairy	2023-08-24	Call	In	Noted not against lowest impact gas production into the local grid, but as a group, against frontier exploration.	N/A	N/A
OI-FBICP	Friends of Bay of Islands Coastal Park	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
OI-FBICP	Friends of Bay of Islands Coastal Park	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-FEM	Friends of the Earth - Melbourne	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-FEM	Friends of the Earth - Melbourne	2023-08-22	Email	In	Shared with colleague who has an interest in decommissioning, and hope to meet on next Melbourne visit	N/A	N/A
EG-FEM	Friends of the Earth - Melbourne	2023-08-22	Email	Out	Confirmed intention to all meet	N/A	N/A
EG-G	Greenpeace	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
EG-G	Greenpeace	2023-08-21	Email	In	Auto response	N/A	N/A
EG-IFAW	International Fund for Animal Welfare	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-IFAW	International Fund for Animal Welfare	2023-08-21	Email	In	Read receipt	N/A	N/A
EG-LO	Living Ocean	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-LO	Living Ocean	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-MMF	Marine Mammal Foundation	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-MMF	Marine Mammal Foundation	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-OW	Ocean Watch	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-OW	Ocean Watch	2023-08-21	Email	In	Read receipt	N/A	N/A
EG-OW	Ocean Watch	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting being connected with members who may be interested in being consulted, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
EG-OCEAN	Otway Climate Emergency Action Network (OCEAN)	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-RTA	Rising Tide Australia	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
EG-RTA	Rising Tide Australia	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-SSA	Sea Shepherd Australia	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-SC	Surfers for Climate	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-SC	Surfers for Climate	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-SFA	Surfrider Foundation Australia	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-SFA	Surfrider Foundation Australia	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-WCLN	Warrambool Coastcare Landcare Network	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-WCLN	Warrambool Coastcare Landcare Network	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-WCLN	Warrambool Coastcare Landcare Network	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting being connected with members who may be interested in being consulted, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
EG-WDCA	Whale and Dolphin Conservation Australia	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-WDCA	Whale and Dolphin Conservation Australia	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-WSM	Wilderness Society Melbourne	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
EG-WSM	Wilderness Society Melbourne	2023-08-21	Email	In	Delivery receipt	N/A	N/A
EG-WWF	World Wildlife Fund	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
EG-WWF	World Wildlife Fund	2023-08-21	Email	In	Delivery receipt	N/A	N/A
First Nations							
FN-BLCAC	Bunurong Land Council Aboriginal Corporation	2023-08-25	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
FN-BLCAC	Bunurong Land Council Aboriginal Corporation	2023-08-28	Email	In	Read receipt	N/A	N/A
FN-BLCAC	Bunurong Land Council Aboriginal Corporation	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting consultation with organisation and/or individual members, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
ID429	Eastern Maar Aboriginal Corporation	2023-08-25	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted Highlighted some outstanding matters from previous meeting: - EMAC - to provide advice as to whether as an Agent PBC, they represent all members of EMAC - CE- to include Eastern Maar CEO as key contact in CE's oil pollution emergency plan (OPEP) so that the right EMAC cultural heritage adviser can be sourced for any threatened locations (Done) -CE - to check into oiled wildlife training - in discussions with AMOSC	N/A	N/A
ID429	Eastern Maar Aboriginal Corporation	2023-08-31	Email	In	Read receipt	N/A	N/A
ID429	Eastern Maar Aboriginal Corporation	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting consultation with organisation and/or individual members, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
FN-GACL	Gunditjirara Aboriginal Cooperative Ltd	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting being connected with members who may be interested in being consulted, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
FN-WTOAC	Wadawurrung Traditional Owners Aboriginal Corporation	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting consultation with organisation and/or individual members, and	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
					provided a quick response checkbox to check on intentions and areas of interest or concern.		
FN-WMAC	Winda Mara Aboriginal Corporation	2023-11-22	Email	Out	Email reiterating purpose of consultation, highlighting how Cooper Energy activities could affect interests, requesting being connected with members who may be interested in being consulted, and provided a quick response checkbox to check on intentions and areas of interest or concern.	N/A	N/A
Government agencies, local government and Members of Parliament							
GA-NTSV	First Nations Legal & Research Services	2023-09-15	Email	Out	Meeting request	N/A	N/A
GA-GSC	Glenelg Shire Council (Portland)	2023-09-27	Email	Out	Provided OPEP as per prior commitment	N/A	N/A
GA-GSC	Glenelg Shire Council (Portland)	2023-09-27	Email	In	Auto response; out of office	N/A	N/A
Other							
O-BCCM	Barwon Coast Committee of Management	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
OI-BCCM	Barwon Coast Committee of Management	2023-08-21	Email	In	Delivery receipt	N/A	N/A
Recreational fishing							
RI-VGFC	Victoria Game Fishing Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-VGFC	Victoria Game Fishing Club	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-VRFA	Victorian Recreational Fishers Association (VRFish)	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-VRFA	Victorian Recreational Fishers Association (VRFish)	2023-08-21	Email	In	Delivery receipt	N/A	N/A
Recreational groups/industry							
RI-AS	Academy of Scuba	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
RI-AS	Academy of Scuba	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-AMYC	Anglesea Motor Yacht Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-ABDCSF	Apollo Bay Dive Centre and Surf n Fish	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-ABSC	Apollo Bay Sailing Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-ABSC	Apollo Bay Sailing Club	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-ABSK	Apollo Bay Surf & Kayak	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-ABSK	Apollo Bay Surf & Kayak	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-ACA	Australian Camps Association	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-ACA	Australian Camps Association	2023-08-21	Email	In	Auto response	N/A	N/A
RI-BIAV	Boating Industry Association of Victoria	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-BIAV	Boating Industry Association of Victoria	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-DIAA	Dive Industry Association of Australia	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
					- requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted		
RI-DIAA	Dive Industry Association of Australia	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-DIV	Diving Industry of Victoria	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-DIV	Diving Industry of Victoria	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-ORCV	Ocean Racing Club of Victoria	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-ORCV	Ocean Racing Club of Victoria	2023-08-22	Email	In	Read receipt	N/A	N/A
RI-PV	Paddle Victoria	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-PV	Paddle Victoria	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-PGC	Peterborough Golf Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-PGC	Peterborough Golf Club	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-PLBC	Point Leo Boat Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-PLBC	Point Leo Boat Club	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-PCRR	Port Campbell Rifle Range	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
RI-PCRR	Port Campbell Rifle Range	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-PFYC	Port Fairy Yacht Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-PFYC	Port Fairy Yacht Club	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-PYC	Portland Yacht Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-PYC	Portland Yacht Club	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-SDFV	SCUBA Divers Federation of Victoria	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-SDFV	SCUBA Divers Federation of Victoria	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-SSSS	Surf Sessions Surf School	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-SSSS	Surf Sessions Surf School	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-SV	Surfing Victoria	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-SV	Surfing Victoria	2023-08-21	Email	In	Delivery receipt	N/A	N/A
RI-WYC	Warnambool Yacht Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-WYC	Warnambool Yacht Club	2023-08-21	Email	In	Read receipt	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
RI-WV	Windsurfing Victoria	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-WV	Windsurfing Victoria	2023-08-21	Email	In	Delivery receipt	N/A	N/A
Research groups							
OI-BWS	Blue Whale Study	2023-08-29	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
OI-FC	Fishwell Consulting	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
OI-FC	Fishwell Consulting	2023-08-18	Email	In	Delivery receipt	N/A	N/A
Surf life saving clubs							
SL-TBBHSLSC	13th Beach Barwon Heads Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-ASLSC	Anglesea Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-ASLSC	Anglesea Surf Life Saving Club	2023-08-21	Email	In	Read receipt	N/A	N/A
SL-APBSLS	Apollo Bay Surf Lifesaving Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-APBSLS	Apollo Bay Surf Lifesaving Club	2023-08-21	Email	In	Delivery receipt	N/A	N/A
SL-BASLSC	Bancoora Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
					- requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted		
SL-BASLSC	Bancoora Surf Life Saving Club	2023-08-18	Email	In	Read receipt	N/A	N/A
SL-FASLSC	Fairhaven Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-GSS	Go Surf School	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-GSS	Go Surf School	2023-08-21	Email	In	Delivery receipt	N/A	N/A
SL-GSLSC	Gunnamatta Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-JJSLSC	Jan Juc Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-LSLSC	Lorne Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-OGSLSC	Ocean Grove Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-PCSLSC	Port Campbell Surf Life Saving Club	2023-11-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-PFSLSC	Port Fairy Surf Lifesaving Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
					- sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted		
SL-PFSLSC	Port Fairy Surf Lifesaving Club	2023-08-21	Email	In	Delivery failure	N/A	N/A
SL-PFSLSC	Port Fairy Surf Lifesaving Club	2023-11-04	Email	Out	Re-sent after early delivery failure to different address: General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-PSLSC	Portland Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-TSLSC	Torquay Surf Lifesaving Club	2023-08-21	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-TSLSC	Torquay Surf Lifesaving Club	2023-08-21	Email	In	Read receipt	N/A	N/A
SL-WBSLSC	Warrambool Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
SL-WRSLSC	Wye River Surf Life Saving Club	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
Tourism							
TI-12AH	12 Apostles Helicopters	2023-08-17	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	NA
TI-12AH	12 Apostles Helicopters	2023-08-17	Email	In	Delivery receipt	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
TI-ABVIC	Apollo Bay Visitor Information Centre	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
TI-ABVIC	Apollo Bay Visitor Information Centre	2023-08-18	Email	In	Read receipt	N/A	N/A
TI-GORCPA	Great Ocean Road Coast and Parks Authority	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
TI-GORCPA	Great Ocean Road Coast and Parks Authority	2023-08-18	Email	In	Auto response	N/A	N/A
RI-GCRRT	Great Ocean Road Regional Tourism	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-GCRRT	Great Ocean Road Regional Tourism	2023-08-20	Email	In	Delivery receipt	N/A	N/A
RI-GORTP	Great Ocean Road Tourist Park	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-GORTP	Great Ocean Road Tourist Park	2023-08-18	Email	In	Delivery receipt	N/A	N/A
RI-PCVIC	Port Campbell Visitor Information Centre	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-PCVIC	Port Campbell Visitor Information Centre	2023-08-18	Email	In	Delivery receipt	N/A	N/A
RI-VTIC	Victorian Tourism Industry Council	2023-08-18	Email	Out	General mailout - moving to ongoing consultation phase - concluding primary consultation and completing consultation reports - sensitive information should be highlighted so as not to be published - requested that any potentially relevant persons that are known to this person be asked to contact us so they could be consulted	N/A	N/A
RI-VTIC	Victorian Tourism Industry Council	2023-08-18	Email	In	Delivery receipt	N/A	N/A

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Relevant Person ID	Relevant Person	Date	Event Method	In/Out	Event Summary	Assessment of Merit	Measures Adopted
500	Convent at Koroit	2024-06-10	Email	Out	Invitation to consult regarding Athena Supply project EP was provided.	N/A	N/A
500	Convent at Koroit	2024-06-12	Email	In	Queried impacts and risks from existing operations for context, so the discussion is being captured in the Otway Offshore Operations EP also. Regarding existing operations in the Otway, was interested in the impacts on marine fauna, effect and extent of invasive species caused by the current activities, how noise pollution affects marine life and pollution related to current activities	N/A	N/A – provided additional information specific to persons queries raised.
500	Convent at Koroit	2024-06-13	Email	Out	Thanked for noting non-functioning checkboxes in email. Noted error corrected for the next round of emails.	N/A	Fixed checkbox error in next emails
500	Convent at Koroit	2024-06-26	Email	Out	- Provided an overview of impacts on marine fauna from existing production wells, including noise and potential risk of spills, along with seabed disturbance. - Noted there were no known occurrences of IMS introduction from our Otway operations - Discussed the nature of the sound we introduce when undertaking offshore operations, and steps taken to manage potential impacts of noise, including a no approach "caution zone" of 500m radius around sighted whales and looking at scheduling options. Noted we have not had any spills or leaks of gas or condensate from our facilities (the wells or pipeline) or the vessels we hire for offshore campaigns and noted the response plans prepared for the unlikely event of a spill.	N/A	No new measures adopted
500	Convent at Koroit	2024-07-02	Email	In	Passed on thanks for the information	N/A	N/A

Table 11-7 Report on Consultation –Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) Vic OPGSR 19(b)

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
2023/02/16	COE-All-Activities-2023-Update COE-FN_Shires-2023-Letter	Mail	NA		NA	Communication A general overview of Cooper Energy's plans for 2023 was provided, along with an overview of existing operations, including the Otway Offshore Operations. This was accompanied by a letter seeking feedback on issues that were of interest. Links were provided for further information. We requested that GMTOAC send contact details of any other interested parties so Cooper Energy could follow up with them. Provided email address and phone number for any further information.
2023/05/29		Phone call outgoing	Admin staff provided email addresses for CEO and admin team.		NA	NA
2023/05/29	FN-GMTOAC-20230529-Email	Email outgoing & Incoming	Delivery failure to CEO address; (no delivery failure to admin address) No response received		NA	Communication Provided overview of activities Explained that we were making contact regarding our environment plan to consult with those whose functions, interests or activities may be affected by our activities. Pointed to the activities website that described Cooper Energy's obligation for consultation Requested contact be made if there were issues or concerns to be raised. Response could be via email address provided or via the webform Noted that the activities would help them assess how they may be affected. Noted that NOPSEMA's community information brochure could be found on the website. Noted a Cooper Energy person was in the area and available to meet. (As it was an important week for First Nations people, it was noted we would also be available at a later date and had flexibility on timing) Suggested an initial visit to determine the level of consultation that GMTOAC required. Noted availability to meet board or other community members as GMTOAC deemed appropriate. Noted our availability to meet in office or other location on Country to provide an opportunity to highlight important aspects of Country.
2023/05/31	FN-GMTOAC-20230531-Email	Email outgoing	No response received		NA	Communication Noted CEO's email bounced. Sent corrected links to activities website.
2023/06/19	FN-GMTOAC-20230619-Call	Phone call outgoing	Admin staff confirmed email had gone to the CEO. Advised she will follow up with CEO on meeting, and that CEO may contact us direct. No further response received		NA	Communication Called to check on correspondence and availability for meetings. Suggested 6 th or 7 th July, but advised we had flexibility on timing.
2023/07/05	FN-GMTOAC-20230705-Email	Email outgoing	No response received		NA	Communication Re-sent email to CEO, and added a map showing location of activities relative to GMTOAC's RAP. Noted GMTOAC's likely lack of resources, and noted we were agreeable to providing support through prescribed fees. Reiterated our interest in consulting on the activities.
2023/07/12		Phone call outgoing	No response received		NA	Communication Called and left message requesting call back regarding Cooper Energy's consultation request.
2023/07/17	FN-GMTOAC-20230717-Email	Email outgoing	No response received		NA	Directed email to alternate senior staff member who we understood was tasked with organizing consultation with offshore energy operators. Sent copy of prior correspondence, requested a meeting, and our availability in the area that week, but expressed flexibility on timing should that not work.
2023/07/24	FN-GMTOAC-	Visit to office &	Reception/admin confirmed the person I was most recently		NA	Communication

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
	20230724-Email	message via LinkedIn	in touch with (Heritage, Research and Policy Manager) was the correct person for this matter, but not currently in the office. They advised he was planning a schedule for the requested meetings			Dropped in to GMITOAC Lake Condah office. Advised we were seeking an opportunity to meet regarding our offshore activities. A message was also sent by a representative of Cooper Energy to the HR & P Manager via LinkedIn requesting a quick call so he could determine the nature and timing of any meeting.
2023-08-25	FN-GMITOAC-20230825-Email	Email outgoing	No response received		NA	Communication Noted that we had been consulting on the activities for over 6 months. Provided an additional opportunity to raise issues as we conclude this stage of consultation. Noted we were concluding our consultation reports, but that consultation remained open should significant new concerns arise, or to continue any consultation in progress (Note: no objections or claims had yet been raised, but this was a general mailout to relevant persons). We noted there was a low level of response, which we attributed to a general lack of concern around continuation of gas production into our existing onshore processing facilities. Requested that should they be aware of community members who would be interested in being consulted on these activities, that they share the email and/or the link the activities website.
2023-11-22	FN-GMITOAC-20231122-Email	Email outgoing	Response below			Communication Provided additional opportunity to respond Provided a "quick response table" to make responding simple. Highlighted purpose of consultation Seeking to understand cultural and spiritual connections, potential consequences from our activities on interests, and any mitigations that could be applied. Acknowledged their role as PBC and RAP in being a primary source of advice and knowledge on matters relating to Sea Country, cultural features and heritage values in their region. Provided overview of activities, these being gas production via subsea pipelines, periodic general inspections and testing of subsea infrastructure, and any maintenance or repairs that may be required. Highlighted where further details could be found on the <i>activities website</i> . Noted high level impacts and risks, pointed to the website for further information, and provided a direct link to the <i>spill</i> section of the website. Requested consultation with organisation or individuals,
2023-12-07 2023-12-13 ⁸	FN-GMITOAC-20231207-Email / FN-GMITOAC-20231213-Email	Email incoming/ Email outgoing	GMITOAC advised that multiple requests from oil and gas proponents had resulted in pressure on resources For efficiency proponents were given an opportunity to book a timeslot to speak with GMITOAC and the Gunditjmarra community on 17 February 2024. Additional information was to be provided soon. Standard meeting fees were to be applied. Required to respond by 19 January 2024 to express interest and secure a timeslot.	N/A	No objections or claims about adverse impact.	FN-GMITOAC-20231213-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) General response: Acknowledged the strain on resources and appreciated the offer. Confirmed interest in participating. Provided a list of proposed Cooper Energy attendees. Requested an opportunity to speak on the phone in the current week with the GMITOAC manager who sent the email.
2023-12-11 ⁹	FN-GMITOAC-20231211-Email	Email incoming	Response from senior manager at GMITOAC via quick response table:	Cooper Energy considers at the time that sufficient information, time and	No objections or claims about adverse impact.	See response dated 17 Jan 2024, ref FN-GMITOAC-20240117-Email, copied here for clarity:

⁸ Note: this correspondence was not specific to this EP , but about broader consultation with GMITOAC by Cooper Energy. It has been included as it provides useful context for the consultation day referred to elsewhere in this report.
⁹ As above.

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			- Advised that GMTOAC would like to be consulted further on the activity - Requested that we present at a properly notified and conducted meeting with GMTOAC's community members, and that GMTOAC could facilitate that meeting - Noted that GMTOAC understood the purpose of consultation and needed additional time to confirm response. (No timeframe was provided.) - Noted that GMTOAC required additional information in order to understand the potential interactions with their interests so they can provide an informed response. (No indication as to what further information was required) Advised that additional time was required to understand potential interactions with their interests.	opportunity had been provided.		Reg 24(b)(iii) response: not applicable (no objection or claim made) General response: Wrote in response to GMTOAC email of 7 Dec 2023. Acknowledged that GMTOAC would like further consultation on this activity, but given the nature and scale and that we had sought consultation for almost 12 months, that we intended to submit the EP, and sought GMTOAC's understanding. We noted that we had tried to call on numerous occasions rather than advise via email, but that the relevant manager was not available. The conversation with the administrator on 8 January 2024 was also noted. Remained open to discussing this project as part of ongoing consultation should any members wish to do so, and we could then determine if any significant new information surfaces that we need to consider. We shared our understanding that this activity likely did not trigger any native title or heritage notifications. We looked forward to consultation day in February, and our preference was to present two other projects. Appreciated GMTOAC's thoughts on our intentions. (Not included in response, but for clarity, note that Cooper Energy did consult with GMTOAC and the Gunditjmarra community on 17 February 2024)
2023-12-20	FN-GMTOAC-call log	SMS out	No response received	N/A	No objections or claims about adverse impact.	Communication Sent message to relevant GMTOAC department manager requesting to best time for a call
2023-12-22	FN-GMTOAC-call log	SMS in/out	Received messaging from the relevant GMTOAC department manager advising he was on leave until January 3, and able to chat then. ---- Relevant manager acknowledged our response of same day and reciprocated holiday period wishes.	N/A	No objections or claims about adverse impact.	Communication Called relevant manager; no response Passed on thanks and confirmed the 3 rd would be fine. Passed on best wishes for Christmas.
2024-01-03	FN-GMTOAC-call log	Outgoing call	No response received	N/A	No objections or claims about adverse impact.	Communication Called relevant manager as directed; no response
2024-01-04	FN-GMTOAC-call log	SMS out	No response received	N/A	No objections or claims about adverse impact.	Communication Message sent to relevant manager requesting best time for call
2024-01-08	FN-GMTOAC-call log	Outgoing call	No response received	N/A	No objections or claims about adverse impact.	Communication Called relevant manager as directed; no response
2024-01-08	FN-GMTOAC-call log	SMS out	Response below	N/A	No objections or claims about adverse impact.	Communication Message sent to relevant manager requesting best time for call
2024-01-08	FN-GMTOAC-call log	Incoming call	Administrator from GMTOAC called to advise that the Manager had extended his leave. Upon our describing the purpose of the call, the administrator advised that the message would be passed on to the relevant manager, and that the relevant manager may then call us to discuss.	N/A	No objections or claims about adverse impact.	Communication We advised we wanted to speak with the manager as we intended to submit this EP prior to consultation day but wanted to discuss first as a courtesy and for better understanding. We considered that if GMTOAC understood the nature and scale of the activity then it could be that this was an activity they did not need to be consulted further on. We understood that the administrator was not a decision maker, and requested this information be passed on to the

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
2024-01-11	FN-GMTOAC-20240111-Email / FN-GMTOAC-20240111-Email-02	Email incoming	Advised that a number of proponents had expressed interest in joining the Consultation Day, which was scheduled for February 17, 2024. While the agenda was still being developed, each proponent will have a dedicated timeslot, and questions will be shared beforehand to help guide discussions. Guidance on relevant fees will also be provided. Additionally, there is ongoing follow-up on queries from the January 8, 2024, call.	N/A	No objections or claims about adverse impact.	relevant manager. We had other activities that we wished to discuss during the consultation day. Reg 24(b)(iii) response: not applicable (no objection or claim made) General response Thanked GMTOAC for confirmation of the consultation day and noted we considered it to be a good initiative. Noted the comment regarding further queries, and noted our availability for a call if the said manager would like to discuss.
2024-01-17	FN-GMTOAC-20240117-Email	Email outgoing	NA	N/A	No objections or claims about adverse impact.	Reg 24(b)(iii) response: not applicable (no objection or claim made) General response Wrote in response to GMTOAC email of 7 Dec 2023. Indicated that Cooper Energy's preference would be to focus on the following two proposed activities for the offshore Otway Basin during the limited time available during the consultation day: - East Coast Gas Supply Project – Offshore Project Proposal (OPP) - Drilling and development near our existing offshore facilities for ongoing domestic gas supply via the existing Athena gas plant. - Otway Offshore Exploration Drilling EP (since renamed Athena Supply Project (ASP) EP - Exploration wells also close to our existing offshore facilities, which, if successful, will provide additional domestic gas supply via the existing Athena gas plant.
2024-01-18	FN-GMTOAC-20240118-Email	Email incoming	Relevant manager noted that he had been on break and missed some calls but passed on apologies for not being in touch.	No objection regarding plan to submit EP.	No objections or claims about adverse impact.	FN-GMTOAC-20240118-Email-02 Reg 24(b)(iii) response: not applicable (no objection or claim made) General response: Thanked the relevant manager for his understanding with respect to our plan to submit the EP.
2024-01-18	FN-GMTOAC-20240118-Email-02	Email outgoing	Confirmed that GMTOAC understood that Cooper Energy had timelines and schedules to keep with respect to our intention to submit the EP, and there was nothing further to be said on this matter. Briefing questions proposed by GMTOAC for the Consultation Day include: - Description of the project(s). - Current development stage of the project(s). - Potential or actual impacts on Gundijmara sea country, and specifics if any. - Existing plans to safeguard Gundijmara cultural values. - Views on effective consultation and engagement with Gundijmara. Confirmed timing and location for consultation day, and noted each session would have attendees restricted to Gundijmara (GMTOAC members), GMTOAC program staff, government agency staff and the proponent.			
2024-02-14	FN-GMTOAC-	Email incoming	A1: It was noted that this Environment Plan (EP) was	NA	No objections or claims about	FN-GMTOAC-20240523-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
(email dated 14 Feb contained letter dated 5 Feb 2024)	20240214-Email		currently being assessed by NOPSEMA.		adverse impact.	Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: A1: Noted
(email dated 14 Feb contained letter dated 5 Feb 2024)	FN-GMTOAC-20240214-Email	Email incoming	A2: It was noted that Cooper Energy regards both GMTOAC and its individual members as relevant persons .	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification Query</i> General response: A2: Agreed with understanding.
(email dated 14 Feb contained letter dated 5 Feb 2024)	FN-GMTOAC-20240214-Email	Email incoming	A3: The activities are located within Gunditjmara Sea Country, a culturally rich area that serve as breeding grounds and habitats for significant species and contains both intangible and submerged heritage. Key elements of cultural heritage include: • Deen Maar Island, a spiritually important site. • Kooyang (short-finned eel), which migrates from the Budj Bim World Heritage site—one of the oldest aquaculture systems globally—on Gunditjmara Country, moving through the Otway Basin to the Coral Sea, and holds deep cultural value for the Gunditjmara People. • Karntubul (whales), also deeply culturally significant. • The Bonney Upwelling, a vital ecological feature supporting the area's ecosystems.	As a result of sharing of these values and significant heritage items, and the release of the Sea Country Plan, a new section of the EP has been developed specifically looking at Risk and Impact evaluation of First Nations Cultural Heritage Values and Considerations (section 7).	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Improvement</i> General response: A3: Cooper Energy expressed that it appreciated the sharing of these values and publishing the Sea Country Plan. The Sea Country Plan conveys these values, and GMTOAC's connection to Nyamat Mirring with deep reflection and purpose. We have considered and discussed this information within our team at Cooper Energy in the context of our existing activities. Cooper Energy indicated that it had updated the EP as follows: • Integrated and attributed information provided to us by GMTOAC regarding key values: eels, Deen Maar, whales and the Bonney upwelling. • Researched, included and attributed additional information on particular species where we had been lacking (shortfinned eels) to help inform additional impact assessment. • Reviewed our environmental aspect identification and associated impact and risk assessments relevant to the key values provided to us by GMTOAC. The relevant environmental aspects include: - o Physical presence of vessels and associated temporary subsea noise and light - o Physical presence of infrastructure and related seabed disturbance - o Unplanned release of hydrocarbons After careful and considered review, there are no severe impacts or high risks identified in relation to these environment aspects. Our activities are of limited nature and scale, and we have selected control measures to reduce impacts and risks to as low as reasonably practicable, and to within acceptable levels. These control measures include, though are not limited to: - Whale disturbance risk management protocols, we require our contracted vessels to maintain caution and no approach zones. These are designed to meet or exceed relevant Victorian and Commonwealth regulations. - Monitoring of our emissions and discharges. We will also offset the greenhouse gas emissions produced by Cooper Energy's share of the fuel burned by our contracted vessels. - Monitoring of marine wildlife whilst we have vessels working offshore. Implementing a light management plan. Engagement with relevant rescue organisations should any fauna be identified as needing assistance. - Seabed survey and reporting process to manage risk of impacts to underwater cultural heritage.

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)																																				
2024-02-14 (email dated 14 Feb contained letter dated 5 Feb 2024)	FN-GMTOAC-20240214-Email	Email incoming	A4. Cooper Energy has not yet held meetings with GMTOAC or its members and has so far only communicated via emails sent to the organisation's staff. .	NA	No objections or claims about adverse impact	- Detailed engineering and planning to prevent spills of hydrocarbons to sea. Detailed oil pollution emergency plan developed in consultation with relevant Government Control Agencies, to minimise impacts should a spill occur. We have also noted Gunditj Mirring's interest in being involved in spill response efforts should a spill of hydrocarbons threaten the shoreline, to protect culturally sensitive sites. FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no claim or objection made) <i>Classification: Comment</i> General response: A4. Noted, correct as at date of the letter.																																				
2024-02-14 (email dated 14 Feb contained letter dated 5 Feb 2024)	FN-GMTOAC-20240214-Email	Email incoming	A5.: It was considered that previous interactions did not amount to genuine consultation. GMTOAC represents the Gunditjmarra community, and its members, through an inclusive governance model, are given the chance to contribute input on issues impacting their Country.	We respectfully disagree noting that sufficient time and information has been provided to GMTOAC, and reasonable effort has been made to seek consultation with the organisation and its members. While we consider that we have discharged our duty to consult in the course of preparing this EP for submission, we remain keen to continue with ongoing consultation which supports our objective for continuous improvement and relationship building.	No objections or claims about adverse impact	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable <i>Classification: Objection or claim (about consultation)</i> General response A5. Cooper Energy noted that understand that, as at the date of the letter, GMTOAC's perspective was that adequate consultation had not taken place. From Cooper Energy's perspective, significant efforts were made over an extensive period (more than 12 months) to provide GMTOAC and its members with sufficient information and opportunity to assess the impact of our ongoing activities on their interests. This is reflected in the contact log below, which shows that extensive and tailored communications were sent to GMTOAC, with appropriate information about the activities and requests for feedback/engagement. Additionally, we conducted an in-person verbal presentation at the Ngooyong Mara Cultural Healing Centre, Portland, in the format requested by GMTOAC, after the date of the letter. Our contact log was as follows as at the date of this correspondence:																																				
<table><tr><td>2023-2-16</td><td>Letter</td><td>Out</td><td>Activity sheet sent</td></tr><tr><td>2023-5-29</td><td>Call</td><td>Out</td><td>Requested best email contact</td></tr><tr><td>2023-5-29</td><td>Email</td><td>Out</td><td>GMTOAC advised contact details</td></tr><tr><td>2023-5-30</td><td>Email</td><td>Out</td><td>Email sent update and new website link</td></tr><tr><td>2023-6-19</td><td>Call</td><td>Out</td><td>Requested confirmation of CEO email address bounced, and sent updated website link. (Address hadn't bounced)</td></tr><tr><td>2023-7-5</td><td>Email</td><td>Out</td><td>Called to follow up on meeting request. Address had gone to CEO, and will request CEO email sent with a new map, and again request</td></tr><tr><td>2023-7-12</td><td>Call</td><td>Out</td><td>Called and left message regarding request</td></tr><tr><td>2023-7-17</td><td>Call</td><td>Out</td><td>Requested availability for meeting</td></tr><tr><td>2023-7-18</td><td>Visit</td><td>Out</td><td>Dropped into GMTOAC office at Lake Condamine available, but staff confirmed (Manager) was not available</td></tr></table>							2023-2-16	Letter	Out	Activity sheet sent	2023-5-29	Call	Out	Requested best email contact	2023-5-29	Email	Out	GMTOAC advised contact details	2023-5-30	Email	Out	Email sent update and new website link	2023-6-19	Call	Out	Requested confirmation of CEO email address bounced, and sent updated website link. (Address hadn't bounced)	2023-7-5	Email	Out	Called to follow up on meeting request. Address had gone to CEO, and will request CEO email sent with a new map, and again request	2023-7-12	Call	Out	Called and left message regarding request	2023-7-17	Call	Out	Requested availability for meeting	2023-7-18	Visit	Out	Dropped into GMTOAC office at Lake Condamine available, but staff confirmed (Manager) was not available
2023-2-16	Letter	Out	Activity sheet sent																																							
2023-5-29	Call	Out	Requested best email contact																																							
2023-5-29	Email	Out	GMTOAC advised contact details																																							
2023-5-30	Email	Out	Email sent update and new website link																																							
2023-6-19	Call	Out	Requested confirmation of CEO email address bounced, and sent updated website link. (Address hadn't bounced)																																							
2023-7-5	Email	Out	Called to follow up on meeting request. Address had gone to CEO, and will request CEO email sent with a new map, and again request																																							
2023-7-12	Call	Out	Called and left message regarding request																																							
2023-7-17	Call	Out	Requested availability for meeting																																							
2023-7-18	Visit	Out	Dropped into GMTOAC office at Lake Condamine available, but staff confirmed (Manager) was not available																																							

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
						contact for consultation purposes, and that he organising a schedule for all that had requested Sent Manager message via LinkedIn to see if organise a phone call
						2023-7-18 Out Message
						2023-08-25 Out Email
						- moving to ongoing consultation phase - concluding primary consultation and complete consultation reports - sensitive information should be highlighted s published - requested that any potentially relevant person known to this person be asked to contact us s be consulted
						2023-11-22 Out Email
						Email reiterating purpose of consultation, high Cooper Energy activities could affect interests consultation with organisation and/or individual and provided a quick response checkbox to c intentions and areas of interest or concern.
						2023-12-07 In Email
						Email requesting EO1 to book a timeslot to sp GMTOAC and the Gundijmara community
						2023-12-11 In Email
						Response via quick response table noting: • Would like to be consulted on this ac • Would like Cooper Energy to presen notified and conducted meeting with members, and GMTOAC can facilita meeting. • Request for additional time. • More information needed, and meet
						2023-12-13 Out Email
						Confirmed interest in participating in speaking with GMTOAC and the Gundijmara communi provided contact details for attendees.
						2023-12-20 Out Text/Call
						Sent and left message requesting time for a c
						2023-12-22 In Text
						Manager on leave until Jan 3, and happy to s
						2024-1-3 Out Call
						Called Manager as planned, left message
						2023-1-4 Out Text
						Requested best time for call
						2023-1-8 Out Call
						No answer
						2023-1-8 Out Text
						Requested best time for call
						2023-1-8 In Call
						Received call from Administration staff memb likely submission of EP, and she passed this for follow up
						2024-01-11 In Email
						Advised that the proposed Consultation Day Feb 17 2024, and further details will be provic
						2024-01-11 Out Email
						Thanked GMTOAC for update on consultation

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
2024-02-14 (email dated 14 Feb contained letter dated 5 Feb 2024)	FN-GMTOAC-20240214-Email	Email incoming	A6: It was noted that each member, as a relevant person, requires adequate information, which should be shared through formally notified and properly conducted meetings. Members should also be given reasonable time to review the information and provide feedback. It was stated that this process has not yet taken place.	Cooper Energy has consistently sought to engage with GMTOAC, and its members (who are represented by GMTOAC). GMTOAC, as representative body, was given reasonable time and information to facilitate a meeting if it considered a meeting of its members was appropriate for consultation in respect of this EP. As such, these concerned were noted. While we consider that we have discharged our duty to consult in the course of preparing this EP for submission, we remain keen to continue with ongoing consultation which supports our objective for continuous improvement and relationship building.	No objections or claims about adverse impact.	Thanked GMTOAC for response (email of 11 Feb 2024). Noted Cooper Energy intended to submit this remained open to consult on any new information arise from future meetings and correspondence. Looked forward to meeting during consultation February. Noted Cooper Energy's intention to submit this information to GMTOAC for consideration.
						2024-01-17 Email Out
						2024-01-18 Email In
						2024-01-18 Email Out
						2024-1-23 Call Out
						2024-1-29 Email In
						2024-2-14 Email In
						2024-2-16 Email In
						2024-2-17 Meeting In/Out
						2024-3-19 Email Out
						2024-3-19 Email In
						2024-3-21 Email In
						2024-4-5 Email Out
						2024-04-19 Email In
						FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) Classification: Objection or claim (about consultation) General response A6. Cooper Energy noted that our shared preference would have been for a properly notified and conducted meeting to have been conducted with GMTOAC's members. However, in our view, we had afforded GMTOAC sufficient and reasonable opportunity to organise this. We noted that the February Consultation Day was set up in a format designed by GMTOAC, and GMTOAC member participation was sought and encouraged by GMTOAC. We had understood the Consultation Day to be a properly notified and conducted meeting of GMTOAC's members – however, if this is not the case, then, the opportunity to conduct it as such was provided to GMTOAC, but not utilised.

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
2024-02-14 (email dated 14 Feb contained letter dated 5 Feb 2024)	FN-GMTOAC-20240214-Email	Email incoming	A7. GMTOAC invited Cooper Energy to deliver an information session for GMTOAC and its members on February 17, 2024. This session is intended solely to provide details to help members decide which projects they wish to be consulted on and to outline their expectations for consultation on this particular project	Cooper Energy engaged in the opportunity to participate in the consultation day per the invited from GMTOAC in the interest of building a relationship and facilitating consultation.	No objections or claims about adverse impact.	We also noted that this EP covers ongoing activities rather than proposed activities. Therefore, we advised that we would expect this to make the assessment of possible consequences of the activity on GMTOAC and its members more straightforward. FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no claim or objection made) <i>Classification: Objection or claim (about consultation)</i> General response: A7. We noted that we considered the Consultation Day to be a good initiative, which formed part of the consultation process for the preparation of the EP (whilst not being the full consultation process, in and of itself). In particular, we note that while the Consultation Day started out as a one-way information session, during and after the formal presentation, there was further 'Q&A' two-way dialogue with GMTOAC and its members. The Consultation Day also occurred after significant time and information had already been provided to GMTOAC to consider the EP. A further 3 months has now transpired since the Consultation Day, where feedback could be provided by GMTOAC and its members. What constitutes adequate 'consultation' for the purposes of Regulation 25 of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations), depends on various factors, including the nature, scale and complexity of the activities covered by the EP and the extent and severity of potential impacts on the relevant person's interests. Again, we note that this EP covers ongoing activities, rather than new activities, which should simplify GMTOAC and its members' assessment of the impacts and risks to their interests. Given the above Cooper Energy advised that it believed that it had discharged the duty to carry out consultation in the course of preparing the EP, in accordance with Regulation 25 of the Environment Regulations. FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no claim or objection made) <i>Classification: Comment</i> General response: A8. Noted NA
2024-02-14 (email dated 14 Feb contained letter dated 5 Feb 2024)	FN-GMTOAC-20240214-Email	Email incoming	A8. Provided contact details of relevant manager to contact with any questions.	NA	No objections or claims about adverse impact.	
2024-02-16	FN-GMTOAC-20240216-Email	Email incoming	Final agenda provided for the Gundijmara Oil and Gas Consultation Day. Requested that a copy of the presentation be provided on a USB stick. Provided contact for any questions	NA	No objections or claims about adverse impact.	Attended organised tour of Budj Bim World Heritage area (one of the world's oldest aquaculture systems) on Gundijmara Country and a culturally very important area to the Gundijmara People. This provided a first-hand view of this amazing cultural landscape, highlighting the importance of the area and the Kooyang (short finned eels) that migrate out of the area to the Coral Sea,
2024-02-16		Tour				
2024-02-17	FN-GMTOAC-	In-person	CD 1.	Note as can be seen by queries, this did	No objections or claims about	Consultation Day was an event designed, organised and managed by

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
	20240405-Email		Noted Gunditjmara country extended beyond the RAP boundary; that boundary is just the corporation's boundary. Asked about likely timing CD 2. Asked about how eels and whales are protected. CD3. Asked about impacts to whale migration. CD4. Asked if we ever had a spill (context – offshore oil spill) CD5. Asked about GMTOAC role in a spill response. GMTOAC need to be included in Cooper Energy's environmental disaster plan because of their knowledge regarding sites that need protection. This knowledge comes from their unbroken and ongoing relationship with Country CD6. Noted they have limited resources, pulling together these meetings was a significant body of work and they/we need to understand the consultation timeframes; they are being consulted on many projects CD7. Env Justice asked: What past or ongoing environmental assessments has Cooper done in relation to existing operations as well as proposed operations? Whether or how you address cumulative impacts? there are lots of projects emerging in this space. Whether and how in past you have addressed targeted key species? (key totemic or threatened species e.g. whales, eel migration) -- Next steps: GMTOAC will determine consultation priorities and suggested next steps	evolve into 2-way dialogue with Q&A. Queries were responded to during the meeting. Cooper Energy checked with a member on at least one question to confirm the query had been answered properly. The EP has been updated to include an obligation to contact GMTOAC in the event of a spill that may have an impact on cultural heritage within their Sea Country.	adverse impact.	GMTOAC and advertised for their members. Agreed notes from the meeting are below, and GMTOAC members comments/queries are in the summary column. Presentation materials were primarily diagrams and images, and followed topics suggested by GMTOAC, slide 1 as follows: 1. What our project(s) are 2. What stage they are up to 3. Are there likely to be and/or is Gunditjmara sea country being impacted by the project(s)? If so how? 4. What plans are in place to protect the Gunditjmara cultural values? 5. What do we/you see as good consultation/engagement with Gunditjmara? We welcome your input and feedback, and your interest in consultation on any or all 3 of our projects Attendees comprised members including Elders (online and in-person), and representatives from Environmental Justice Australia, DPC and NIAA. Reg 24(b)(iii) response: not applicable Classification: Requests for information and clarification General response:
						• Noted that Cooper Energy understand the view of GMTOAC that the session doesn't constitute consultation; and that GMTOAC's view that this was purely an information session that it was expected will lead onto consultation at GMTOAC/members choice. • Gave brief overview of the three projects (which included this EP and the relevant activities under this EP) • Exploration drilling and development activities all proximate to existing production Area ¹⁰ • Keeping supply up to Athena gas plant – no plans to expand capacity of Athena • Our view is that local gas is preferable to potentially very expensive LNG imports with its higher emissions profile Aspects (physical presence, discharges, seabed disturbance), Impacts and risks associated with the activities, oil spill risk. • Support vessels operating from Portland or Geelong. Showed nearby shipping lanes and types of vessels that transit through the region. • No direct impacts from planned activities to Gunditjmara sea country (as broadly defined by GMTOAC), but noted potential impacts to species of interest (eels/whales) beyond that boundary; also aware of the Bonney Upwelling • Discussed emergency response and role of DTP

¹⁰ Note: drilling activities are not proposed under this EP.

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
						• Effective consultation - o listen and learn - o Respect GMTOAC processes and timelines, and participation of members - o Two-way conversation; Cooper Energy needs to hear from GMTOAC what the best approach is - o Being clear on impacts and risk - o Understanding confidentiality - o Consulting as early as possible - o Working together to reduce consultation burden - o Cooper Energy needs to find ways to consult that are not a burden on the community – not just oil and gas industry, its energy industry including wind, a lot of people calling on GMTOAC's time; want to make sure consultation is effective and efficient CD1. Likely timing for exploration drilling was late 2025.¹¹ (Table 4-6 reflects how Sea Country is considered to extend beyond the formally defined RAP area to include sea and submerged lands to the edge of the continental shelf) CD2. Cooper Energy described how the activities would not be expected to impact on the migration of short-finned eels and the activities would not pose a barrier to migration (Table 6-3 (effect of physical presence of the activity on eels), Section 6.5.4.1 (effect of noise from the activity on eels), 7.3.3.1 (effect of activity of eel as a resource utilised in cultural practices)). Cooper Energy described physical distancing precautions for whales, including 500m caution zone within which vessels must move slowly and limit movements to avoid collision and disturbance ((Table 6-3 Physical presence of vessels – interaction with marine fauna)). CD3. Cooper Energy described how the activities would not be expected to present a barrier to migration, later also touched on noise modelling and potential cumulative impacts. (Section 6.5 (Potential impacts to whales from subsea noise from the activity); 6.5.2.3 (subsea noise – potential cumulative impacts)). CD4. Cooper Energy confirmed they had not had a (offshore oil) spill CD5. Noted importance of communications plan in site identification, but we couldn't guarantee how DTP used this (inferred we would include this information). But

¹¹ Note: as above, these activities are not relevant to this EP but are included for full context.



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
						we were aware from drills that DTP do have a plan to consult on cultural heritage. (Relevant sections of EP: The context of the "Disaster Plan" related to significant oil spills, and as such translates to our Oil Pollution Emergency Plan (OPEP), which was discussed during the consultation day Within the EP and OPEP. Cooper Energy has identified GMTOAC as a key stakeholder in the event an oil spill threatens shorelines along Gunditjmara Country, and has included a control measure which requires engagement with GMTOAC if responding to a spill threatening Gunditjmara Country. CM4 has been updated to include the requirement to contact Relevant First Nations representatives in the event of a spill (Ref Table 7.4.)) CD 7. COE commented: initial baseline studies for the project before the infrastructure went in, and to inform initial impact assessments. We undertake regular impact and risk reviews (Section 10.10). Studies we undertake to inform this assessment include noise modelling (Section 6.5)which also relates to potential cumulative impacts (Section 6.5.4.3). We look at potential cumulative impacts during the planning process and have a dialogue with other operators in the region (<i>Table -71-2</i>) to discuss things like timing which may influence overall noise levels in the region. In addition to the above and for completeness, we note that the following notes and query were included in the email. <i>Regarding the Otway Operations EP, and taking into account the following:</i> <i>Your letter dated 5 February 2024, which suggested that our presentation during the Consultation Day would enable GMTOAC members to specify the project(s) they wish to be consulted on.</i> <i>EJA's correspondence highlighting drilling and seismic as primary areas of interest.</i> <i>The absence of provisions for drilling or seismic activities in the Otway Offshore Operations EP.</i> <i>Have you reached a decision regarding your preferred approach to consultation on this EP?</i> <i>Follow ups:</i> <i>Send updated OPP info sheet with earliest start date for activities.</i> (This was sent to GMTOAC for distribution to its members (in its capacity as corporate representative of the GMTOAC members which had been communicating with Cooper Energy on behalf of those members) on 19 March

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
						2024. Note that the OPP information sheet contained name, email address and phone number for the Consultation Adviser who presented during consultation day.) FN-GMTOAC-20240217-Presentation The presentation used for consultation day with members showed a map of the Otway Offshore Operations. A map also showed Cooper Energy title areas relative to GMTOAC's boundary. An illustration showed the basic view of what a subsea production well was. A photo showed the typical offshore maintenance vessel used, and underwater images showed subsea facilities with marine growth. A map also showed other shipping related activities in the area for perspective. This document was shared with GMTOAC in its capacity as a relevant person and as representative for its members, for distribution to members in their capacity as relevant people.
2024-03-19	FN-GMTOAC-20240319-Email	Email outgoing	NA		NA	Thanked GMTOAC for organising consultation day, and shared updated OPP information sheet (information sheet not relevant to this project but contained relevant contact details).
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B1. Environmental Justice Australia (EJA) confirmed they are representing the Gundij Mirring Traditional Owners Aboriginal Corporation (GMTOAC) in matters related to the Otway Offshore Operations Environment Plan (EP).	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: B1. Noted
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B2. It was noted that GMTOAC serves as the corporate representative of the Gundijmara people.	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: B2. Noted
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B3. This correspondence pertains to the Otway Offshore Operations Environment Plan (EP), which is currently under assessment and with the titleholder.	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: B3. Noted
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B4. Understood that Cooper Energy considers GMTOAC and individual members to be Relevant Persons.	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Query</i> General response: B4. Per our response to A2, we confirm that Cooper Energy considers GMTOAC and its members to be relevant persons under the Regulations.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B5. As "relevant persons," GMTOAC and all its members must be provided with a fair chance to engage in consultation when Cooper Energy's activities may impact the communal interests of the Gundijmara. This consultation	As per A5 merit assessment.	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made)

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			should be "appropriate and adapted to the nature of the interests" specific to the Gunditjmarra people.			Classification: Comment General response: B5. Cooper Energy agreed that GMTOAC and its members should be provided reasonable opportunity to participate in consultation, and that consultation be appropriate and adapted to the nature and interests of the Gunditjmarra people. We reiterated our response to points A5, A6 and A7 above, and consider that ample opportunity has been provided for GMTOAC and its members to consider the EP, make an informed assessment of the possible consequences on their interests and provide feedback accordingly.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B6.1. It was noted that genuine consultation involves more than just sending emails and information sheets to staff or officers who lack the authority to make decisions on behalf of members regarding significant matters. B6.2. GMTOAC currently views all offshore petroleum activities as potentially having a significant impact on its interests and those of its members.	B6.1 As per A5 merit assessment B6.2 Broad claim that all offshore petroleum activities are potentially highly consequential to GMTOAC interests The claim is broad and not specific to Cooper Energy's activities or this EP. The impacts and risks analysis using the risk matrix (Section 5) demonstrates no impacts greater than L2, and risk severity no greater than Moderate in relation to environmental values and sensitivities. The risk and impact evaluation for First Nations Cultural Heritage Values was significantly updated to include a new Section (7) which evaluates the potential for project activities to affect cultural heritage and the continuation of cultural practices. Impacts from planned activities are assessed as having no greater than Level 2 consequence, which is not considered as having the potential to result in serious or irreversible environmental damage. In relation to intrinsic links to First Nations people's heritage sites and values; no disruption to these links are expected. This reflects that the ongoing activities conducted under the Otway Offshore Operations EP are of limited nature and scale)	B6.1 No objections or claims about adverse impact. B6.2 The claim that the activities under this EP may be potentially highly consequential on the interests of GMTOAC and its members has some merit. However, with proposed control measures, risks have been assessed as being ALARP and acceptable. Our previous response to A3 also addressed these concerns.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) Classification: Objection or claim (about consultation) General response: B6.1. As per our response to points A5, A6 & A7, we indicated that we believed that we have satisfied our consultation requirements as we have provided ample time and information to GMTOAC and its members to consider the EP and its potential consequences on their interests. Reg 24(b)(iii) response: not applicable (no objection or claim made) Classification: Comment General response: B6.2. Noted that GMTOAC considers all offshore petroleum activities as potentially highly consequential to its interests and those of its members.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B7. Cooper Energy, as per the regulations, must allow for a reasonable period of time for consultation to take place with GMTOAC members.	Cooper Energy considers that it has allowed a reasonable period of time for consultation to take place with GMTOAC members.	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) Classification: Comment General response:

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
						B7. We confirm that a reasonable period of time should be allowed for relevant persons to make informed assessments of possible consequences of an activity on their interests, and respond with concerns. As described in response to point A5, a reasonable period of time has been provided.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B8. GMTOAC stated that it does not consider the interactions thus far to be genuine consultation and believes that consultation between Cooper Energy and GMTOAC members has not yet begun.	Cooper Energy respectfully disagrees and notes that consistent and extended efforts to consult with GMTOAC have been made by Cooper Energy in respect of this EP (as detailed in this EP).	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Objection or claim (about consultation)</i> General response: B8. We reiterated our responses to points A5, A6 & A7, and noted that we believed our consultation requirements have been satisfied, as we have provided ample time and information to GMTOAC and its members to consider the EP and its potential consequences on their interests.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B9. GMTOAC indicated that it requires suitable, independent technical advice to understand the impact of proposed offshore petroleum activities on Gundijmara Sea Country, both individually and in cumulative effect.	This is a matter for GMTOAC, though Cooper Energy respectfully maintains that sufficient time has been allowed to arrange such advice if required.	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Objection or claim (about consultation)</i> General response: B9. Cooper Energy noted that it considered that our obligations have been discharged given the efforts made, and time and opportunity provided to GMOTAC for consultation, as per points A5, A6 & A7.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B10. GMTOAC emphasized the need for independent advice because of the complex, technical aspects of the Environment Plans (EPs), both individually and cumulatively, as well as GMTOAC's obligations to its members.	As per B9 merit assessment. Cooper Energy also notes that it has sought to provide all information requested by relevant persons to ensure that the impacts of the proposed activities under the EP are readily understood.	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Objection or claim (about consultation)</i> General response: B10. Cooper Energy noted that it considered that our obligations have been discharged given the efforts made and time and opportunity provided to GMOTAC for consultation, as per point A5, A6 & A7.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B11. GMTOAC stated that independent advice is essential to enable GMTOAC and its members to fully understand the potential impacts of production activities on their relevant interests, including but not limited to interests in Sea Country according to Gundijmara tradition, culture, and customs. This step is also crucial for providing meaningful information to GMTOAC and its members.	As per B8 and B9 merit assessment	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Objection or claim (about consultation)</i> General response: B11. Cooper Energy noted that it considered that our obligations have been discharged given the efforts made and time and opportunity provided to GMOTAC for consultation, as per point A5 A6 & A7.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B12. GMTOAC indicated that the information shared during Consultation Day was limited and insufficient for adequately informing GMTOAC and its members. It served only to help them decide if they wished to pursue further consultation.	Cooper Energy respectfully disagrees with this view, but also notes that there have been extensive opportunities for further or additional information to be requested that have not be used by GMTOAC.	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Objection or claim (about consultation)</i> General response: B12. We reiterated our response to A7 above.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B13. GMTOAC advised that it will provide a consultation plan by late May after receiving technical advice.	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made)

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
						<i>Classification: Objection or claim (about consultation)</i> General response: B13. As per point B12. Nevertheless, as per A5 merit assessment, we appreciate the opportunity for ongoing consultation, and also look forward to receiving your consultation plan with respect to the Athena Supply EP. FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: B14. Cooper Energy thanks GMTOAC for identifying what are the "more impactful" activities on GMTOAC and its members' interests. We confirmed that the Otway Offshore Operations EP does not provide for seismic surveys or drilling activities, and also noted that the EP covers existing activities rather than any newly proposed activities. FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: B15. We agree, and support a respectful, considered and effective consultation process. FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Objection or claim (about consultation)</i> General response: B16. We respectfully disagree that this is the starting point in time for consultation on this EP. We consider our consultation requirements under Regulation 11As have been discharged given the efforts made as per our responses to items A5, A6 and A7. Nevertheless, as per A5 merit assessment, we look forward to ongoing consultation. FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Request</i> General response: B17. Noted; we will direct correspondence to both EJA and GMTOAC.
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B14. Noted their present focus are on projects that appears most impactful on Sea Country, with specific concerns being drilling, seismic and cumulative impacts	Cooper Energy notes that the activities proposed under this EP do not involve drilling or seismic activities. Cooper has undertaken an assessment of its proposed activities as set out in this EP. The EP considers cumulative impacts on cultural values.	No objections or claims about adverse impact.	
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B15. GMTOAC indicated that it wishes to ensure that the consultation process is conducted in a respectful, thoughtful, and effective manner.	NA	No objections or claims about adverse impact.	
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B16. GMTOAC described its points as being the minimum basis and starting point for consultation.	Cooper Energy, as noted above, disagrees with many of the points raised around the sufficiency of time and information provided by Cooper Energy to GMTOAC in respect of this EP, and disagrees with the asserted 'starting point' of consultation in light of the efforts made by Cooper Energy to consult with GMTOAC.	No objections or claims about adverse impact.	
2024-03-21	FN-GMTOAC-20240321-Email	Email incoming	B17. Noted where correspondence should be directed.	Reasonable request as to how to direct correspondence is agreed. This request was acknowledged and actioned.	No objections or claims about adverse impact.	
2024-04-05	FN-GMTOAC-20240405-Email	Email outgoing	See 17 February 2024 entry above. The summary notes of the meeting are contained there to better reflect the chronological order of events. The draft meeting notes were sent to GMTOAC for review 5 April 2024, and GMTOAC provided some corrections on 19 April 2024. These corrections were accepted by Cooper Energy.			
2024-04-19	FN-GMTOAC-20240419-Email	Email incoming	C1: EJA noted it acts for GMTOAC in relation to consultation on offshore petroleum projects.	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: C1: Noted

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
2024-04-19	FN-GMTOAC-20240419-Email	Email Incoming	C2: Activities Include those covered under this EP.	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: C2: Noted
2024-04-19	FN-GMTOAC-20240419-Email	Email Incoming	C3: Referred to Cooper Energy email dated 5 April 2024	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: C3: Noted
2024-04-19	FN-GMTOAC-20240419-Email	Email Incoming	C4: Noted further correspondence should be directed to EJA.	Reasonable request as to how to direct correspondence is agreed. This request was acknowledged and actioned.	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Request</i> General response: C4: Noted: we will direct correspondence to both EJA and GMTOAC
2024-04-19	FN-GMTOAC-20240419-Email	Email Incoming	C5: Confirmed receipt of information sheet provided on 19 March	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: C5: Noted (note: this information sheet was related to an OPP, so contents of information sheet not captured in this table).
2024-04-19	FN-GMTOAC-20240419-Email	Email Incoming	C6: Confirmed intention to provide consultation plan by late May 2024. The plan will reflect GMTOAC's position on parameters and minimum standards for consultation with GMTOAC and its members.	Noted (though no such consultation plan has been provided as at 5 November 2024)	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: C6: Noted
2024-04-19	FN-GMTOAC-20240419-Email	Email Incoming	C7: The plan will describe how GMTOAC and its members intend to engage in consultation.	NA	No objections or claims about adverse impacts.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: C7: Noted
2024-04-19	FN-GMTOAC-20240419-Email	Email Incoming	C8: GMTOAC will be available for consultation after finalisation of the consultation plan, and Cooper Energy will be advised of any potential meeting when GMTOAC has advised EJA. Such a meeting with members will not be until after June.	Noting that this consultation plan has not been provided as at 5 November 2024, Cooper Energy has been unable to comply with it (or form a view as to whether compliance is a reasonable request as it has not been able to review it).	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Request</i> General response:

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
						C8: Regarding the Otway Offshore operations EP, as per A5, reasonable time, information and opportunity have been provided and we consider consultation in the course of preparing the EP complete.
2024-04-19	FN-GMTOAC-20240419-Email	Email incoming	C9: Noted a request from Cooper Energy for a meeting about another EP within a reasonable time for the purposes of further consultation if required.	NA	NA	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Comment</i> General response: C9: Noted
2024-04-19	FN-GMTOAC-20240419-Email	Email incoming	C10: Noted the significant calls on GMTOAC time for multiple projects and will be in touch in due course. As the PBC for Gundijmara it has numerous responsibilities in addition to responding to requests for consultation. Advised will be in touch in due course regarding effective and respectful consultation on the EP.	Noting the significant delays, it is difficult to agree with the assertion that the proposed process by GMTOAC has facilitated effective consultation. Cooper Energy appreciates that there are multiple project proponents seeking to consult but nonetheless considers that reasonable time and information has been provided to GMTOAC (and its members via GMTOAC in its capacity as their corporate representative)	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Request</i> General response: C10: See C8
2024-04-19	FN-GMTOAC-20240419-Email	Email incoming	C11: Noted that notes from meeting of 17 February have been reviewed and some corrections made.	Corrections accepted and reflected in meeting notes in record FN-GMTOAC-20240405-Email	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objections or claim made) <i>Classification: Feedback</i> General response: C11: Cooper Energy accepts the proposed amendments. However, regarding point 3 of page 3, we refer you to our response to A7 above.
2024-04-19	FN-GMTOAC-20240419-Email	Email incoming	C12: Noted NOPSEMA was copied on the correspondence.	NA	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objections or claim made) <i>Classification: Comment</i> General response: C12: Noted
2024-04-19	FN-GMTOAC-20240419-Email	Email incoming	C13: Provided confirmation of where future correspondence should be sent	Reasonable request as to how to direct correspondence is agreed.	No objections or claims about adverse impact.	FN-GMTOAC-20240523-Email Reg 24(b)(iii) response: not applicable (no objection or claim made) <i>Classification: Request</i> General response: C13: Noted; we will direct correspondence to both EJA and GMTOAC.
2024-05-23	FN-GMTOAC-20240523-Email	Email outgoing	This was a response to matters raised in correspondence dated 5 February 2024, 21 March 2024 and 19 April 2024. We have noted it here to maintain chronological order, but contents are included above against each of the points of the correspondence, noted with Ref# FN-GMT OAC-20240523-Email.			
2024-05-23	FN-GMTOAC-20240523-Email	Email outgoing	NA	NA	NA	Reg 24(b)(iii) response: not applicable (no objection or claim made) General response (cover email): Thank you for the email below and the attached response regarding multiple

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
						activities dated 19 April 2024 which, amongst other things, noted there was no possibility of a meeting to further consult on these activities prior to the end of June. The nature, scale and complexity of the activities provided for under the Otway Offshore Operations EP are limited to the continued presence and operation of subsea equipment (pipelines, wells, control umbilical) which have been in place for over 15 years), and periodic maintenance and inspection activities using a boat with a remotely operated vehicle (ROV). Neither drilling nor seismic (your stated primary areas of interest) are relevant to the planned activities provided for within the Otway Offshore Operations EP. As noted in our attached response to letters received from GMTOAC and EJA, with respect to the Otway Offshore Operations EP 5 year revision, we consider we have acted in good faith in discharging our duty of consultation in the course of preparing this EP, having provided sufficient information, time and opportunity to GMTOAC and its members to assess the activity and provide feedback, and having considered GMTOAC's Sea Country Plan and values and factored them into our associated impact and risk assessments and control measures. On this basis, we believe we have complied with the consultation requirements under Regulation 25 of the <i>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023</i> (Ch), and that this aspect of consultation is now complete. However, we remain keen to build on our nascent relationship with GMTOAC and its members, remain open to ongoing consultation that supports continuous improvements to how we conduct our activities, and look forward to consulting on the Athena Gas Supply EP as per separate correspondence.
2024-05-29	FN-GMTOAC-20240529-Email	Email incoming	D1: Environmental Justice Australia (EJA) confirmed its ongoing representation of the Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) in matters related to consultation on offshore petroleum activities and projects that may affect Gunditjmarra Sea Country. D2: Referred to the letter sent by EJA on behalf of GMTOAC dated 21 March 2024.	Previously acknowledged potential to impact on components of Gunditjmarra Sea Country in consultation emails and addressed in EP Section 7.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-05-29	FN-GMTOAC-20240529-Email	Email incoming	D3. Advised that in the correspondence dated March 21, we informed Cooper Energy of the following: a. GMTOAC requires access to appropriate, independent technical advice to assess the cumulative and individual impacts of proposed offshore petroleum activities on Gunditjmarra Sea Country. b. GMTOAC plans to deliver a consultation plan to offshore proponents by late May 2024, outlining its position on the parameters and minimum standards required for effective consultation with the Corporation and its members.; and c. Finalizing the consultation plan depends on GMTOAC and its members first obtaining the independent technical advice previously mentioned.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-05-29	FN-GMTOAC-20240529-Email	Email incoming	D4: GMTOAC advised that it is making every effort to	This matter was previously raised. Our response remains per our letter dated 23 May 2024.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-05-29	FN-GMTOAC-	Email incoming		NA	No objections or claims about	Refer to response reference: FN-GMTOAC-20240905-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
	20240529-Email		continue developing its preferred consultation plan.		adverse impact.	
2024-05-29	FN-GMTOAC-20240529-Email	Email Incoming	D5: GMTOAC informed that the preparation of its consultation plan will not be completed in time to provide to proponents by late May 2024.	Noted.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-05-29	FN-GMTOAC-20240529-Email	Email Incoming	D6: GMTOAC stated that it has been, and continues to be, actively working to secure technical advice to help the Corporation and its members understand the potential impacts of the proposed activities on their interests.	Noted (this statement does not make any claim as to what those impacts may be).	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-05-29	FN-GMTOAC-20240529-Email	Email Incoming	D7: GMTOAC indicated that, following its and Gunditjmara decision-making protocols, the consultation plan requires review and approval by the Corporation's Board before it can be finalised.	Noted.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-05-29	FN-GMTOAC-20240529-Email	Email Incoming	D8: GMTOAC informed Cooper Energy that the consultation plan would be available no sooner than the next Board meeting on June 28, 2024.	Noted.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-05-29	FN-GMTOAC-20240529-Email	Email Incoming	D9: GMTOAC noted that it is making every reasonable effort and taking steps to prepare its members for engagement in the consultation process.	Noted.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-05-29	FN-GMTOAC-20240529-Email	Email Incoming	D10: Noted that NOPSEMA is copied on this correspondence and will also be provided with a copy of this letter.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email Incoming	E1: Environmental Justice Australia (EJA) confirmed its ongoing representation of the Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) regarding consultation on offshore petroleum activities and projects that may affect Gunditjmara Sea Country.	Previously acknowledged potential to impact on components of Gunditjmara Sea Country in consultation emails and addressed in EP Section 7.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email Incoming	E2: Cooper Energy's Otway Offshore Operations – Casino, Netherby & Henry Revision Environment Plan (Otway Offshore Operations EP) are included in this group of activities.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email Incoming	E3: EJA acknowledged the correspondence sent by Cooper Energy to EJA and GMTOAC on 23 May 2024.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email Incoming	E4: EJA noted that the correspondence mentioned above relates to Cooper Energy's preparation of the Otway Offshore Operations EP, for which it plans to seek approvals from NOPSEMA.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email Incoming	E5: EJA observed that, as of June 4, 2024, NOPSEMA's "Under assessment" webpage lists the Otway Offshore Operations EP as "Under assessment (with NOPSEMA)." EJA noted that until at least May 31, 2024, it had been listed as "Under assessment (with titleholder)," suggesting that the Otway Offshore Operations EP was recently resubmitted to NOPSEMA for assessment.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email Incoming	E6: EJA observed that the only documents listed as under assessment for the Otway Offshore Operations EP on the NOPSEMA website are Appendices and a Location Map, which contain no description of Cooper Energy's proposed activities. Additionally, although the EP is now marked as	The publication of material on NOPSEMA's website is not a matter within Cooper Energy's control. Activities description has been made	No objections or claims about adverse impact	Refer to response reference: FN-GMTOAC-20240905-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			"Under assessment (with NOPSEMA)," the website does not specify the date when this EP was resubmitted to NOPSEMA.	available to GMTOAC via other means including the presentation made on Consultation Day, emails, the activities website, and the currently in-force EP, a link to which is on our activities website. There was also ample opportunity to request more details or to ask where the information could be located.		
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E7: EJA, while reserving GMTOAC's right to make further representations, reiterated GMTOAC's position and concerns regarding the consultation necessary for the approval Cooper Energy seeks. EJA noted that this position had been previously detailed in correspondence sent to Cooper Energy and NOPSEMA on April 19, 2024, and to Cooper Energy on March 21, 2024.	This matter was previously raised. Our response remains per our letter dated 23 May 2024.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E8: EJA reminded Cooper Energy that, as "relevant persons," where Cooper Energy's activities may impact the communal interests of the Gundiġmara people in or around Gundiġmara Sea Country, the law requires providing GMTOAC and its members with a fair opportunity to engage in consultation. This consultation must be "appropriate and adapted to the nature of the interests" of the Gundiġmara people.	This matter was previously raised. Our response remains per our letter dated 23 May 2024. Previously acknowledged potential to impact on components of Gundiġmara Sea Country in consultation emails and addressed in EP Section 7.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E9. EJA reiterated GMTOAC's position, previously outlined in correspondence on March 21 and April 19, 2024, to Cooper Energy: (a) GMTOAC does not consider previous interactions with Cooper Energy to constitute consultation for the EP (b) Meaningful consultation for GMTOAC's membership requires more than emails and a single meeting with GMTOAC staff or officers who lack authority to represent the group on highly consequential issues: all offshore petroleum activities could significantly impact GMTOAC and its members. (c) The information provided by Cooper Energy during the February 17, 2024, information session organized by GMTOAC was a limited, partial overview of the nature, risks, and impacts of proposed activities. This session was solely for GMTOAC and its members to determine if they wanted further consultation. (d) GMTOAC's members require suitable, independent technical and legal advice to assess both individual and cumulative impacts of proposed petroleum activities on Gundiġmara Sea Country.	This matter was previously raised. Our response remains per our letter dated 23 May 2024. b) Broad claim that all offshore petroleum activities are potentially highly consequential to GMTOAC interests. The claim is broad and not specific to Cooper Energy's activities or this EP. The impacts and risks analysis using the risk matrix (Section 5) demonstrates no impacts greater than L2, and risk severity no greater than Moderate in relation to environmental values and sensitivities. The risk and impact evaluation for First Nations Cultural Heritage Values was significantly updated to include a new Section (7) which evaluates the potential for project activities to affect cultural heritage and the continuation of cultural practices. Impacts from planned activities are assessed as having no greater than Level 2 consequence, which is not considered as having the potential to result in serious or irreversible environmental damage. In relation to intrinsic links to First Nations people's	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
				heritage sites and values; no disruption to these links are expected. This reflects that the ongoing activities conducted under the Otway Offshore Operations EP are of limited nature and scale) For completeness, we note that GMTOAC members attended the community consultation day with Cooper Energy. d) Previously acknowledged potential to impact on components of Gundijmara Sea Country in consultation emails and addressed in EP Section 7.		
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	In response to Cooper Energy's cover email ref# FN-GMTOAC-20240523-Email. E10a. EJA reminded Cooper Energy that, as "relevant persons," when activities potentially affect the communal interests of the Gundijmara people in or near Gundijmara Sea Country, the law mandates that Cooper Energy provide GMTOAC and its members with a reasonable opportunity to participate in consultation. This consultation must be "appropriate and adapted to the nature of the interests" of the Gundijmara people. In response to Cooper Energy's ref# FN-GMTOAC-20240523-Email point A6: E10b) EJA informed that GMTOAC acknowledges Cooper Energy's recent "assertion" as a response to GMTOAC's letter of February 5, 2024. In that letter, GMTOAC specified that its members "expect information about proposed activities to be provided in a properly notified and conducted meeting (or multiple meetings, if necessary)," allowing adequate time to review and offer feedback. GMTOAC noted that Cooper Energy had not undertaken these steps to facilitate meaningful consultation with its members. EJA also clarified that, as of the February 5 letter, a properly notified and conducted meeting had yet to occur, as Cooper Energy's presentation took place on February 17, 2024—12 days after GMTOAC's communication.	This matter was previously raised. Our response remains per our letter dated 23 May 2024. Previously acknowledged potential to impact on components of Gundijmara Sea Country in consultation emails and addressed in EP Section 7.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E10b) EJA informed that GMTOAC acknowledges Cooper Energy's recent "assertion" as a response to GMTOAC's letter of February 5, 2024. In that letter, GMTOAC specified that its members "expect information about proposed activities to be provided in a properly notified and conducted meeting (or multiple meetings, if necessary)," allowing adequate time to review and offer feedback. GMTOAC noted that Cooper Energy had not undertaken these steps to facilitate meaningful consultation with its members. EJA also clarified that, as of the February 5 letter, a properly notified and conducted meeting had yet to occur, as Cooper Energy's presentation took place on February 17, 2024—12 days after GMTOAC's communication.	This matter was previously raised and responded to in our letter dated 23 May 2024. Our view remains that sufficient information and reasonable time has been provided for GMTOAC, GMTOAC representatives or GMTOAC members to make an informed assessment of the possible consequences of the activities on their functions, interests or activities.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	In response to Cooper Energy's ref# FN-GMTOAC-20240523-Email point A6: E10c): EJA highlighted that NOPSEMA's guidance on consultation emphasizes the importance of a genuine, two-way dialogue, where relevant persons are given sufficient information and time to assess the potential consequences of an activity on their interests. EJA noted that GMTOAC instructed that although Cooper Energy's presentation on February 17, 2024, was followed by a Q&A session, this	This matter was previously raised and responded to in our letter dated 23 May 2024. Our view remains that sufficient information and reasonable time has been provided for GMTOAC, GMTOAC representatives or GMTOAC members	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrh Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrh Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrh Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			interaction did not constitute genuine two-way dialogue. The Q&A period served mainly for GMTOAC members to seek additional information about Cooper Energy's proposed activities in the Otway Basin, rather than enabling a meaningful exchange. GMTOAC clarified that this February 17 meeting was the first occasion when Cooper Energy met directly with its members to discuss Otway Basin activities. However, the Q&A segment lasted less than an hour, insufficient time for members to adequately review the information and make informed assessments on the possible consequences for their interests. Additionally, Cooper Energy used this limited session to discuss other activities outside the Otway Offshore Operations EP, further diluting its focus. GMTOAC maintains that this session merely served as a preliminary introduction to the proposed activities, their risks, and impacts, and was explicitly an information session for members to decide on their desire for further consultation. EJA stated that GMTOAC's ongoing work on a consultation plan, which outlines parameters and minimum standards for engagement, reflects its commitment to a meaningful two-way dialogue with Cooper Energy, as required under the Offshore Petroleum and Greenhouse Gas (Environment) Regulations 2023. GMTOAC is concurrently being approached by six different proponents, including Cooper Energy, requesting consultation on complex and voluminous Environment Plans (EPs) that concern Gundijmara Sea Country. Given the technical complexity, GMTOAC deems independent technical advice essential to understand the impacts on their Sea Country effectively. EJA reiterated that GMTOAC's role as the representative institution and native title body corporate for the Gundijmara people involves many community obligations, which, combined with the volume of consultation requests, limit the availability and capacity of GMTOAC members to engage in these processes. EJA reminded Cooper Energy of its legal obligation to afford GMTOAC members adequate time for consultation and clarified that, under these circumstances, GMTOAC does not accept Cooper Energy's assertion that it has provided a reasonable opportunity for input on the Otway Offshore Operations EP.	to make an informed assessment of the possible consequences of the activities on their functions, interests or activities. Previously acknowledged potential to impact on components of Gundijmara Sea Country in consultation emails and addressed in EP Section 7.		
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	In response to Cooper Energy's ref# FN-GMTOAC-20240523-Email point A7: E10d) Cooper Energy informed GMTOAC in a phone call around January 8, 2024, that the primary change in the Otway Offshore Operations EP, compared to the previously accepted Otway Offshore Operations – Casino, Netherby & Henry Revision EP (submitted on March 27, 2017), pertains to "vessel inspections." GMTOAC also noted that it has not received a full copy of the Otway Offshore Operations EP, apart from the publicly available documents on the NOPSEMA website.	The essence of this matter (sufficient information) was previously raised and responded to in our letter dated 23 May 2024. Our view remains that sufficient information has been provided for GMTOAC, GMTOAC representatives or GMTOAC members to make an informed assessment of the possible consequences of the activities on their functions, interests or activities. Previously acknowledged potential to	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			As previously mentioned, the NOPSEMA website does not include a publicly available description of the activities proposed under the Otway Offshore Operations EP, preventing GMTOAC from verifying the accuracy of Cooper Energy's description provided in the phone call. GMTOAC emphasized that, without access to a clear and comprehensive description of the proposed activities, they cannot adequately assess or confirm the details conveyed by Cooper Energy.	impact on components of Gunditjmara Sea Country in consultation emails and addressed in EP Section 7.		
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	In response to Cooper Energy's ref# FN-GMTOAC-20240523-Email point C8: E10e) EJA advised that GMTOAC instructs that, according to the Regulations, proponents must consult with all relevant persons during the development of their Environment Plan (EP) to ensure all potential environmental impacts, risks, and control measures are properly identified. This requirement is supported by the Federal Court ruling in <i>Cooper v NOPSEMA (No 2)</i> , which affirmed that "consultation is to be completed before the [environment] plan is submitted (or, in the language of reg 11A, in the course of preparing an environment plan) so that the plan's contents can be informed by the consultation." The Court also noted that a "deficient consultation process" prevents NOPSEMA from making a proper assessment of whether the EP meets the acceptance criteria. In light of this, EJA advised that continued consultation on the Otway Offshore Operations EP is not feasible if adequate consultation during the EP's development stage has not yet occurred.	This matter was previously raised. Our response remains per our letter dated 23 May 2024. Cooper Energy has sought to identify and consult with all interested relevant persons. We note that consultation has been ongoing as the EP has been developed.	No objections or claims about adverse impact	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E11: As noted in EJA's correspondence to Cooper Energy on behalf of GMTOAC dated May 29, 2024, GMTOAC is currently working to secure technical advice for the Corporation and its members to aid in the development of its consultation plan. Consequently, this plan will be provided to Cooper Energy no earlier than GMTOAC's next Board meeting on June 28, 2024 E12: GMTOAC has instructed that it is preparing its consultation plan in good faith to ensure its members receive adequate information to assess the impacts of Cooper Energy's proposed activities on their functions, interests, or activities. Additionally, the plan aims to guarantee that GMTOAC members are given a reasonable period to review and consider this information.	This matter was previously raised. Our response remains per our letter dated 23 May 2024.	No objections or claims about adverse impact	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E13: EJA reminded Cooper Energy that the purpose of consultation is to help titleholders gain a clearer understanding of how others with a vested interest in the	This matter was previously raised. Our response remains per our letter dated 23 May 2024. Cooper Energy has	No objections or claims about adverse impact	Refer to response reference: FN-GMTOAC-20240905-Email



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			env/ironment where the activity is proposed perceive its potential environmental impacts and risks.	genuinely engaged in the consultation process to gain a clearer understanding in respect of interests, functions and activities that may be impacted by its activities. This effort is reflected in the EP.		
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E14: In light of the above, it is evident that the consultation required under the Regulations has not occurred between Cooper Energy, GMTOAC, and its members regarding the Otway Offshore Operations EP.	This matter was previously raised. Our response remains per our letter dated 23 May 2024. Cooper Energy disagrees with this proposition for the reasons set out above.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E15: It was indicated that GMTOAC and its members are concerned about the potential impacts and risks of Cooper Energy's proposed activities on Gundijmara Sea Country and its essential environmental and cultural characteristics. GMTOAC also expressed concerns that Cooper Energy's EP does not sufficiently address cultural, marine, and cumulative impacts, particularly in the context of multiple activities in the Otway Basin that are proposed, under assessment, or pending assessment by NOPSEMA. These concerns are heightened by the lack of a clear description of Cooper Energy's proposed activities in the Otway Offshore Operations EP.	This matter was previously raised. Our response remains per our letter dated 23 May 2024. Previously acknowledged potential to impact on components of Gundijmara Sea Country in consultation emails and addressed in EP Section 7. Cooper Energy has, in response to concerns raised by GMTOAC sought to address cultural and marine impacts. The EP also considers cumulative impacts on cultural values. Cooper Energy has reviewed the description of the activities in the EP to ensure that it is clear.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E16: Asserted that GMT OAC is presently making all reasonable efforts and taking steps to prepare itself and its members to engage in consultation on the Otway Offshore Operations EP.	This matter was previously raised. Our response remains per our letter dated 23 May 2024.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E17: GMTOAC requested that Cooper Energy commit to conducting proper consultation with the Corporation and its members before NOPSEMA assesses the Otway Offshore Operations EP, in accordance with its legal obligations..	This matter was previously raised. Our response remains per our letter dated 23 May 2024.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-07	FN-GMTOAC-20240607-Email	Email incoming	E18: It was noted that NOPSEMA was copied on this correspondence and will receive a copy of this letter as well.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240905-Email
2024-06-28	FN-GMTOAC-20240628-Email	Email incoming	GMTOAC's next Board meeting has been rescheduled from 28 June 2024 to 5 July 2024. Consultation plan to be provided no earlier than the date of the board meeting.	Noted		Refer to response reference: FN-GMTOAC-20240905-Email
2024/09/05	FN-GMTOAC-20240905-Email	Email outgoing				Communication Letters dated 29 May 2024 and 7 June 2024, and email dated 28 June 2024 noting the one-week delay in the Board meeting were acknowledged. Noted the views that you have expressed in those correspondences.

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
						Noted more than 2 months have now passed since the last correspondence, and neither a proposed consultation plan or any other responses in respect of the consultation material have been received. Noted and appreciated that it takes time and effort for GMTOAC to follow its chosen inclusive governance model, whereby members are invited to and given a genuine opportunity to participate in decision making on matters that may affect them. Noted that consultation was initiated on the Athena Supply Project EP on 17 February 2024, and subsequently ample information, time and opportunities have been afforded for GMTOAC to share and consider this information, make an informed assessment of the potential consequences of the activity and provide a response if it, or its members, wished to do so. Noted that future engagement on our EPs as part of ongoing consultation which can support continuous improvement during the implementation of our environmental plans remains welcome.
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F1: EJA confirmed its ongoing representation of GMTOAC in matters related to consultation on offshore petroleum activities and projects that may impact Gunditjmara Sea Country.	Previously acknowledged potential to impact on components of Gunditjmara Sea Country in consultation emails and addressed in EP Section 7.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F2: EJA noted that these activities include the Otway Offshore Operations – EP Revision Environment Plan, currently under assessment by NOPSEMA, and the Athena Supply Project Environment Plan, which Cooper Energy has indicated it intends to submit to NOPSEMA soon.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F3 & F4: EJA noted that its previous correspondence to Cooper Energy on June 28, 2024, advised the following: a) GMTOAC is developing a consultation protocol (Consultation Plan) to establish GMTOAC's position on consultation with proponents of proposed offshore petroleum Environment Plans; and b) The Consultation Plan will be provided to proponents no earlier than GMTOAC's next Board meeting, rescheduled from June 28 to July 5, 2024, due to Sorry Business within the Gunditjmara community.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F5: EJA advised that GMTOAC is continuing efforts to finalize its Consultation Plan and to prepare itself, along with other interested members of the Gunditjmara community, for consultation on offshore petroleum activities, including the development of proposed Environment Plans.	Noted	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F6: EJA noted that, in finalizing its Consultation Plan, GMTOAC must adhere to internal decision-making processes shaped by its responsibilities and obligations as the corporate representative of the Gunditjmara people. These	Noted	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
2024/09/09	FN-GMTOAC-20240909-Email	Email incoming	responsibilities are both cultural, aligned with Gunditjmara law and practices, and legal. F7: EJA advised that a full group meeting of Gunditjmara native title holders is scheduled for late October 2024 to review and adopt the Consultation Plan and determine the methods for undertaking consultation. Based on current instructions from GMTOAC, it is anticipated that the Consultation Plan will be adopted during this meeting and subsequently shared with titleholders. F8: EJA noted that GMTOAC serves as the prescribed body corporate (PBC) for the Gunditjmara native title claim area and the joint Gunditjmara and Eastern Maar peoples' claim area under the <i>Native Title Act 2003</i> (Cth). Additionally, GMTOAC is the Registered Aboriginal Party (RAP) for the Gunditjmara people under the <i>Aboriginal Heritage Act 2006</i> (Vic) and is responsible for managing the World Heritage-listed Budj Bim Cultural Landscape on behalf of the Gunditjmara people. F9: EJA advised that, given GMTOAC's roles and responsibilities, it is legally, customarily, and procedurally bound to make decisions—including those related to establishing and participating in consultation—within a specific decision-making and authorization framework. For the Gunditjmara people, this framework necessarily involves deliberative processes. F10: EJA reiterated that the Consultation Plan is a measure to facilitate GMTOAC's involvement, along with those it represents, in statutory consultation. F11: EJA noted that GMTOAC emphasizes and reaffirms the serious commitment of both the Corporation and the Gunditjmara people to their obligations toward their Country and community. This commitment extends to all negotiations and consultations concerning the future of Gunditjmara Country, including onshore and offshore projects. EJA also highlighted that these negotiations and consultations are frequent and ongoing, covering multiple complex and interrelated matters, particularly in the crowded field of petroleum activities in the Otway Basin. This context is crucial to understanding the environment in which GMTOAC, its members, and Gunditjmara native title holders operate. F12: EJA noted that GMTOAC currently does not have separate or additional resources to support its involvement in consultations on offshore petroleum activities and proposed Environment Plans. F13:	Noted (though the Consultation Plan has not been shared with Cooper Energy as at 5 November 2024)	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email incoming		Noted	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email incoming		Noted	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email incoming		NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email incoming		Cooper Energy acknowledges this commitment and the context in which GMTOAC operates, though notes that is nonetheless considers it has discharged its obligations in respect of consultation under this EP.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email incoming		Noted	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email incoming		We have sought and followed guidance when provided as evidenced through our attendance at consultation	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			EJA noted that Commonwealth guidance and policy clearly emphasize respect for and accommodation of First Nations decision-making environments. Examples include: a) The federal Department of Climate Change, Energy, the Environment and Water's <i>Interim Engaging with First Nations People and Communities on Assessments and Approvals under the Environment Protection and Biodiversity Conservation Act 1999</i> (Engaging with First Nations Guidance) states that proponents are expected to "engage with First Nations peoples and communities in a way that is respectful, ethical, honest and fair and that supports informed decision making including in situations where there may be differences of opinion, challenge or dispute". This guidance also specifies that "any special measures required [for First Nations involvement in a proposal] should be on the advice and at the discretion of First Nations peoples and communities." b) NOPSEMA's <i>Consultation in the Course of Preparing an Environment Plan Guideline</i> (Consultation Guideline) indicates that, where interests are held communally, as with First Nations relevant persons, titleholders "will need to demonstrate to NOPSEMA that what [they] did constituted consultation which is appropriate and adapted to the nature of the interests of the relevant persons." The guideline further clarifies that "superficial or token consultation will not be enough," and that all group members afforded a reasonable opportunity to participate in consultation."	day which was a format designed by GMTOAC. Point b) was also previously raised. Our response remains per our letter dated 23 May 2024.		
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F14: EJA noted that NOPSEMA refers to the <i>Engaging with First Nations Guidance</i> as a resource on good practice consultation, which titleholders are encouraged to consider when conducting consultation with relevant persons under the <i>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023</i> (Cth).	NOPSEMA's guidance has been considered, and our response remains as per our letter dated 23 May 2024.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F15: EJA noted that NOPSEMA's <i>Consultation Guideline</i> states that consultation should be conducted to "facilitate genuine two-way dialogue between the titleholder and relevant persons."	NOPSEMA's guidance has been considered, and taken into account in the preparation of this EP.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F16: EJA noted that NOPSEMA's <i>Consultation Guideline</i> also indicates that determining a reasonable period for consultation may depend on the "nature, scale, and complexity of an activity, as well as the extent and severity of potential impacts and risks on a relevant person's functions, interests, or activities."	NOPSEMA's guidance has been considered, and taken into account in the preparation of this EP.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F17: EJA further noted the Engaging with First Nations Guidance advises to recognise that engagement with First	NOPSEMA's guidance has been considered, and taken into account in	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			Nations communities may need to extend over "the very long term" ⁸ and that First Nations communities "may be considering multiple proposals and issues at any given time" and proponents should account for this in their project planning.	the preparation of this EP.		
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F18 EJA reiterated that the purpose of consultation on proposed Environment Plans is to allow "the titleholder to better understand how others with an objective stake in the environment where the activity is proposed perceive the associated environmental impacts and risks."	This matter was previously raised. Our response remains per our letter dated 23 May 2024.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F19: EJA reminded Cooper Energy that the Regulations mandate proponents to consult with all relevant persons during the development of their Environment Plan (EP). This process ensures that titleholders identify all potential environmental impacts, risks, and the control measures to address them. The Federal Court confirmed this requirement in <i>Cooper v NOPSEMA (No 2)</i> , stating that "consultation is to be completed before the [environment] plan is submitted (or in the language of reg 11A, in the course of preparing an environment plan) in order that the contents of the plan may be informed by the consultation". Furthermore, a "deficient consultation process" would prevent NOPSEMA from adequately assessing whether the environment plan meets the acceptance criteria.	This matter was previously raised. Our response remains per our letter dated 23 May 2024. Cooper Energy has consulted with GMTOAC and all other relevant persons in the course of preparing this EP, and the EP reflects that genuine consultation.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F20: EJA noted that GMTOAC once again emphasizes that the consultation required under the Regulations has not occurred between Cooper Energy, GMTOAC, its members, and the Gundiḡmara native title holders whom GMTOAC represents.	This matter was previously raised. Our response remains per our letter dated 23 May 2024. Cooper Energy respectfully disagrees with this assertion and considers that consultation obligations have been discharged for the reasons set out in this EP.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F21: EJA notes that it will continue to develop the consultation plan and act in good faith in respect of Gundiḡmara rights, interests and imperatives concerning offshore petroleum issues and protection of their Sea Country, including as these relate to consultation on proposed Environment Plans and in accordance with their own obligations.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F22: EJA noted that GMTOAC once again requests that Cooper Energy commit to conducting proper, lawful, and respectful consultation with the Corporation and Gundiḡmara native title holders while preparing the Otway Offshore Operations EP. This includes withdrawing the EP from submission to NOPSEMA and providing GMTOAC with the most recent version of the proposed Otway Offshore Operations EP, enabling GMTOAC and those it represents to participate in consultation effectively and in accordance with their processes.	Activities description has been made available to GMTOAC via other means including the presentation made on Consultation Day, emails, the activities website, and the currently in-force EP, a link to which is on our activities website. There was also ample opportunity to request more details or to ask where the information could be located.	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
2024/09/09	FN-GMTOAC-20240909-Email	Email Incoming	F23: EJA It was noted that NOPSEMA is copied on this correspondence and will also receive a copy of this letter.	NA	No objections or claims about adverse impact.	Refer to response reference: FN-GMTOAC-20240912-Email Communication Acknowledged letter dated 9 September 2024 and passed on thanks for prompt response to our correspondence. Noted EJA advice that the consultation plan will not be available until late October 2024. Noted that while we look forward to receiving the consultation plan when it is eventually finalised, ample time has been afforded to GMTOAC for the purpose of consultation with respect of the Otway Offshore Operations EP and the Athena Supply EP. Advised that Cooper Energy is cognisant of its consultation obligations, and has made consistent and diligent efforts to consult with GMTOAC in respect of the Otway Offshore Operations EP and the Athena Supply EP. Advised that we have given GMTOAC significant time to consider the material it has been provided with and raise any issues in respect of the potential consequences of our proposed activities. Noted that we will continue to welcome GMTOAC's feedback as part of our implementation consultation strategy. Confirmed that as previously advised, Cooper Energy intends to submit the Otway Offshore Operations EP to NOPSEMA for consideration. Invited EJA to contact us if they or GMTOAC have any queries.
2024/09/12	FN-GMTOAC-20240912-Email	Email outgoing				
2024/11/11	FN-GMTOAC-20241111-Email	Email Incoming	J0: Cover email Environmental Justice Australia (EJA) advised that they continues to represent GMTOAC. Passed on thanks for Cooper Energy's letter dated 8 November 2024. Advised that GMTOAC has been undertaking various preparatory steps to position itself for effective and proper consultation with Cooper Energy. These steps include seeking legal and technical advice and obtaining proper authorisation from Gundijimara to proceed. Gundijimara formally adopted the Gundijimara Consultation and Negotiation Protocol (the Proposed Protocol) on 26 October 2024. A copy of the Proposed Protocol was attached. EJA advised that GMTOAC is in the process of preparing a request on behalf of Gundijimara to Cooper Energy to initiate consultation regarding its proposed offshore petroleum activities. EJA indicated that will provide further correspondence by close of business on 15 November 2024.	Letter dated 8 December referred to relates to another EP. We note that, notwithstanding the reference to GMTOAC 'initiate' consultation, Cooper Energy has been in the process of ongoing consultation with GMTOAC as set out in this Appendix and the equivalent appendix in the relevant EP.	None.	Email The consultation protocol was responded to in respect of this EP in the correspondence described below dated 28 November 2024.
2024/11/11	FN-GMTOAC-20241111-Email	Email Incoming	The attached Gundijimara consultation and negotiation protocol noted the following: J1: The GMTOAC Gundijimara Consultation and	As a general observation, Cooper Energy notes that the Proposed Protocol is largely consistent with how	No objections or claims about adverse impact (noting that this is a high level document and	Email The consultation protocol was responded to in respect of this EP in the correspondence described below dated 28 November 2024.

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			Negotiation Protocol (the Proposed Protocol) outlines the Gunditjmara's standards and expectations for consultation and negotiation related to activities on Gunditjmara Mirring Country. J2: The Proposed Protocol are intended by GMITOAC to serve as a starting point for discussions between GMITOAC, Gunditjmara, and proponents on how consultation and negotiations should be conducted. They are intended by GMITOAC to form the foundation of any framework agreement between the parties. By defining the needs and expectations of GMITOAC and the Gunditjmara, the Proposed Protocol aims to enhance proponents' understanding of the Gunditjmara's relationship with their Country and their responsibilities to protect and care for it in accordance with traditional lores and customs. J3: GMITOAC defines a "Proponent" as any person or entity seeking to undertake a relevant development, use, or extractive activity on Gunditjmara land or sea Mirring, or any activity with potential impacts on Gunditjmara land and sea Mirring. This includes direct or indirect impacts on native flora and fauna, even if the activities occur outside the boundaries of Gunditjmara Mirring. Activities may include offshore or onshore energy projects, such as renewable or petroleum activities. J4: The Proposed Protocol includes key principles and processes for consultation with the Gunditjmara, adhering to the principle of Free, Prior and Informed Consent (FPIC). These principles and processes aim to establish respectful, sustainable, and culturally safe relationships while supporting the legal and cultural obligations of all parties. J5: The principles in the Proposed Protocol are not exhaustive but are intended to guide discussions between parties on the consultation and negotiation process. J6: The document has been informed by and should be read in conjunction with other relevant materials, depending on the nature of the engagement. • GMITOAC website • GMITOAC Rule Book • Jessica K Weir, The Gunditjmara Land Justice Story • Gunditjmara People, Weitenhall, G., (2022) The people of Budj Bim. Engineers of aquaculture, builders of stone house settlements and warriors defending Country • GMITOAC, Gunditjmara Nyamat Mirring Plan 2023-2033 • GMITOAC, Ngootyoong Gunditji Ngootyoong Mara South West Management Plan 2015 GMITOAC, Cultural Values Assessment Guidelines 2022	Cooper Energy seeks to engage with Traditional Owners as stakeholders. The Proposed Protocol is a high level document that appears to be intended to apply to a range of activities by GMITOAC, including negotiations (which are not required by the relevant regulations for the purpose of this EP). In addition to these general comments, Cooper Energy notes the following: J2: Cooper Energy is not required to enter into any agreements with the GMITOAC as part of its consultation under the regulations. J4: Cooper Energy notes for completeness that FPIC principles are not a requirement of the Regulations for the purpose of consultation under this EP. J14: Cooper Energy notes that it has considered the referenced document in its consideration of the Proposed Protocol and the preparation of this EP. J15: Cooper Energy notes that it sought to engage in consultation early in the course of preparing this EP, and has allowed ample time for GMITOAC to participate in consultation if it wished to do so. J16: Cooper Energy notes this position of GMITOAC, though considers that this does not reflect the position at law under the Regulations. J17: Cooper Energy notes that FPIC principles are not required by the Regulations to be incorporated into consultation. J20 and J21: Cooper Energy notes that its consultation was undertaken in a culturally appropriate manner, with sufficient time allowed to accommodate GMITOAC and its members. Cooper Energy has not received specific resourcing requests in connection to this EP (prior to the general statements set out in the	Cooper Energy does not expressly consider this EP).	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)			
			• <u>GMTOAC, Research Principles and Guidelines – creating partnerships for research with Gunditjmara and/or on Gunditjmara Country 2022</u> • Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), <u>Engaging with Traditional Owners</u> • <u>First Nations Clean Energy Network, Best Practice Principles for Clean Energy Projects</u> • <u>Victoria State Government, Community Engagement and Benefit Sharing in Renewable Energy Development in Victoria: A Guide for Renewable Energy Developers</u> • <u>Clean Energy Council, Community Engagement Guidelines for the Australia Wind Industry</u> What is Gunditjmara Mirring and who are Gunditjmara? J7: Gunditjmara Mirring (Country) is a connected and multifaceted landscape composed of four distinct Mirring: Wooroorook Mirring (Forest Country), Bocara Wooroorook Mirring (River Forest Country), Tungatt Mirring (Stone Country), and Nyamat Mirring (Sea Country). Each Mirring has its own unique ecological systems, cultural stories, and values, all intrinsically tied to the Gunditjmara people. J8: The Gunditjmara are the original custodians of the described Mirring, located in far southwestern Victoria. This area is bounded by Bocara (the Glenelg River) to the west, the Wannon River to the north, and the Hopkins River to the east, extending into the sea. Gunditjmara Mirring includes volcanic plains, coastal areas, Nyamat Mirring, limestone caves, forests, and rivers, all forming a continuous and connected landscape. J9: The extent of Gunditjmara land and Nyamat Mirring has been illustrated on a map in the Proposed Protocol. However, the map only provides what is described as an indicative representation of Nyamat Mirring and is described as not fully capturing its interconnectedness with the broader Gunditjmara Mirring or its inland and marine reach. J10: The Gunditjmara's cultural authority to care for and speak for their Mirring is rooted in traditional lores, customs, and knowledge passed down through countless generations since time immemorial. J11: Following on from the recognition of the Gunditjmara's rights as Traditional Owners in the High Court's <i>Onus v Alcoa of Australia Ltd.</i> (1981) 149 CLR 27 decision, the Gunditjmara have received formal acknowledgment under the <i>Aboriginal Heritage Act 2006</i> (Vic) and the <i>Native Title Act 1993</i> (Cth). GMTOAC represents the Gunditjmara as both a Registered Aboriginal Party and the Registered Native Title Body Corporate for their native title	Proposed Protocol).	J32: Cooper Energy considers that it has provided ample information in appropriate forms to GMTOAC and its members. To the extent that GMTOAC have a preference for the structure of consultation, the Proposed Protocol is the first description of that preference provided to Cooper Energy in 18 months of consultation.	J33, J35: Cooper Energy considers that it did engage in early consultation and that the consultation schedule under this EP allowed ample time for culturally appropriate consultation. Cooper Energy allowed approximately 12 months for consultation to occur, which it considers to be a 'reasonable' time for the purpose of the Regulations.	J39, J40: Cooper Energy notes that NOPSEMA is the relevant decision maker for the purpose of the Regulations. GMTOAC are a relevant person and have a role, therefore, as an entity that should be consulted in the course of preparing the EP. Cooper Energy undertook that consultation in accordance with its obligations under the Regulations.	J42, J43: Cooper Energy notes that it provided all relevant information in plain English and provided reasonable information in accordance with the Regulations to allow GMTOAC to consider the potential impacts of Cooper Energy's proposed activities on the relevant functions, interests and activities.	J49: Cooper Energy does not agree with this characterisation of the position as law as it applies under the Regulations and does not accept that GMTOAC has the power to determine whether consultation has or has not taken place.



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			determinations in <i>Lovett on behalf of the Gunditjmara People v State of Victoria</i> [2007] FCA 474 and <i>Lovett on behalf of the Gunditjmara People v State of Victoria</i> (No 5) [2011] FCA 932. J12: A map within the document shows the GMTOAC Registered Aboriginal Party (RAP) area. However, the map does not fully reflect or represent the extent of Gunditjmara Nyamat Mirring. The area covered by these protocols J13. The Proposed Protocol is described as applying to all Gunditjmara Mirring, as defined earlier, and managed by GMTOAC, including Nyamat Mirring Gunditjmara cultural values J14. Gunditjmara cultural values encompass all aspects of Ceremony/Obligation, Skin/Totems/Kin/Relationships, Law/Lore/Learning, Wurrung/Communication, and Mirring, as outlined in GMTOAC's (2022) <i>Cultural Values Assessment Guidelines</i>. These values include, but are not limited to: Creation Stories and Song-lines, spirit, ceremonial sites, tangible and archaeological cultural materials, landscape and seascape features, site lines, living and camping places, resource areas, water (both surface and groundwater, including Nyamat Mirring), Sky Mirring, soils, rocks, plants, animals, fungi, algae, and other biota at all life stages. They also encompass ecological systems, relationships, family stories, pathways and trade routes, cultural practices, and historical events and periods. J15. The consideration of Gunditjmara cultural values requires engagement with the appropriate Gunditjmara cultural knowledge holders and should be addressed early in any consultation or negotiation process. The Proposed Protocol notes that GMTOAC serves as the initial point of contact to identify the Gunditjmara individuals who hold specific cultural knowledge or speak for particular areas of Gunditjmara Mirring. J16. All consultation and negotiation must adhere to these principles. Decisions regarding Gunditjmara Mirring carry intergenerational impacts and must align with Gunditjmara lore, customs, and beliefs. The principles for consultation and negotiation are guided by Gunditjmara decision-making protocols (outlined below) and best practice standards to ensure that Gunditjmara cultural obligations are fulfilled. J17. Free, Prior and Informed Consent (FPIC) serves as a framework that acknowledges and respects the vital decision-making role of the Gunditjmara, fostering meaningful participation, informed decisions, and sustainable outcomes in a timely manner. Consultation and negotiation processes that integrate FPIC contribute to greater certainty, reduced transaction costs, and minimized risks of legal challenges or disputes. All engagement processes involving the Gunditjmara must use FPIC as a basis.			



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			J18: The Gunditjmara value a consultation and negotiation process that demonstrates mutual respect for the opinions of both parties. Building a positive and lasting relationship with the Gunditjmara requires recognition and respect for their cultural values, adherence to their Protocols, and sufficient time for the Gunditjmara to understand and consult on any proposals presented to them. J19. Understanding the Gunditjmara comes through meaningful consultation, which depends on building relationships and engaging with the community over the long term. The Gunditjmara expect that consultation will be a process to establish relationships, foster trust, and create mutual respect. Recognizing and embracing the cultural values, perspectives, and ideas of the Gunditjmara will lead to stronger outcomes for all involved. This requires proponents to approach consultation with flexibility and a genuine willingness to listen to what the Gunditjmara share during the process. J20. GMTOAC state that Proponents must recognise the disparity in resources between themselves and the Gunditjmara and commit to engaging in a consultation and negotiation process that seeks to address and mitigate this inequality. J21. The Proposed Protocol is crucial to accommodate Gunditjmara and Gunditjmara Mirring for building a strong relationship with the Gunditjmara. This accommodation must acknowledge their prior possession and occupation of Gunditjmara Mirring, their continued sovereign right to their Mirring and identity, and their enduring connection to it for thousands of years. J22. The Gunditjmara hold a deep, circular spiritual connection to Mirring and serve as its voice. Through engagement with the appropriate Gunditjmara cultural knowledge holders, proponents are expected to consider Gunditjmara cultural values and gain an understanding of why Mirring and culture are significant. A failure to understand these values can diminish the effectiveness and value of the consultation or negotiation process. Objectives and powers of GMTOAC J23. Through GMTOAC, the Gunditjmara ensure that their cultural obligations and responsibilities—rooted in Gunditjmara Mirring and guided by their lore, customs, and beliefs—are upheld and recognised. This commitment focuses on the protection and management of Mirring, the safeguarding and promotion of Gunditjmara cultural heritage, and the honouring of their ancestors and Elders. J24. GMTOAC is overseen by a Board composed of descendants of the Gunditjmara Apical Ancestors that are listed in the document. J25: GMTOAC is authorised by its members and the Gunditjmara native title holders to carry out its functions and			

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			responsibilities. Formal engagement with its membership and native title holders occurs through GMTOAC general and native title meetings. However, these meetings are not held regularly, and not all native title holders are able to participate. As a result, this may extend the duration of the consultation process. J26. GMTOAC is responsible for making decisions on operational and cultural heritage matters in line with its statutory obligations and functions under the <i>Corporations (Aboriginal and Torres Strait Islander) Act 2006</i> (Cth) and the <i>Aboriginal Heritage Act 2006</i> (Vic). J27. The authority for decisions related to native title matters lies with the native title holders. As a Registered Native Title Body Corporate (RNTBC), GMTOAC has statutory obligations and functions under the <i>Native Title Act 1993</i> (Cth) and the <i>Native Title (Prescribed Bodies Corporate) Regulations 1999</i>. GMTOAC is required to consult with and secure the consent of Gundijimara native title holders for decisions that impact their native title rights and interests. Additionally, GMTOAC engages with its members on broader issues concerning Gundijimara Mirring, including matters related to offshore petroleum activities. J28. The Gundijimara aim to collaborate with governments and proponents to create a consultation process that safeguards Mirring, including Gundijimara's cultural and spiritual connections to it, while ensuring they share in the benefits of developments on their lands and waters. Early and ongoing engagement with the Gundijimara is essential for informed decision-making and sustainable outcomes, reducing the risk of legal disputes and project delays. As Gundijimara interests in Mirring are communal, consultation must occur directly with the Gundijimara people. With adequate timelines and resources, GMTOAC can assist proponents in facilitating and providing reasonable opportunities for the Gundijimara to identify, express, and communicate their interests as part of the consultation process. J29. Further information about GMTOAC's objectives and powers is available in the GMTOAC Rule Book. J30. A diagram illustrating GMTOAC's role and its relationship with the Gundijimara can be found in Appendix 1 of the protocol. Protocols J31. The Gundijimara prefer a co-designed process with all parties, aligned with these Protocols, for consultation and negotiation. This process should address, but not be limited to, considerations such as timeframes, costs, dispute resolution, confidentiality, and intellectual property. J32. The Proposed Protocol indicates that the Gundijimara require timely and comprehensive information about the proposed Activity to determine their involvement in the consultation or negotiations. This process includes initial			

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			meetings, conducted in accordance with this Protocol, between the Proponent and the Gundijmara. These meetings should focus on building a relationship and establishing a process before engaging in the consultation or negotiation of substantive issues. J33. The Proponent is required to respect GMTOAC's internal governance processes by initiating engagement early. Such early engagement will help save time and reduce potential challenges for all parties in the long term. The Proponent must take the time to understand GMTOAC's processes for securing sufficient endorsement from the Gundijmara for any request to consult or negotiate. Adequate time must be allowed for GMTOAC to thoroughly review the Proponent's information, including technical reports, and to facilitate discussions with its membership and the Gundijmara native title holders before formulating a response. J34. The Proponent must appreciate and understand that Gundijmara governance is complex and multi-layered, requiring time for meaningful consultation and negotiation to take place. Realistic timeframes must be incorporated into the Proponent's management process to allow GMTOAC to engage with its membership and community, both on and off Mirring, as well as with the GMTOAC Board, where necessary. J35. Proponents should anticipate that consultation may require significant time, depending on the complexity of their proposed Activity and the number of concurrent Activities requiring consultation with the Gundijmara. Timeframes will vary in each case, considering factors such as GMTOAC's internal resources and the technical expertise required from GMTOAC, its members, and others. Proponents should not expect meaningful consultation to be completed within weeks or months of initiation; in some cases, the process may take considerably longer to achieve meaningful outcomes. J36. It is essential for Proponents to contact GMTOAC at the start of Activity planning and design to discuss and agree on an appropriate timeframe. Proponents should keep in mind that the Gundijmara live their culture, often have competing responsibilities, and are typically involved with family and other commitments. J37. When Proponents are aware of multiple concurrent activities proposed on or potentially impacting Gundijmara Mirring that require consultation or negotiation, they must recognize that this will influence consultation timeframes. Proponents should consider staggering or coordinating consultations and prioritizing the timing of each proposal to ensure an effective and manageable process. J38. Sorry Business, a period of loss, mourning, and reflection, will always take precedence over all other commitments, regardless of the importance or urgency of			

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			the activity. J39. The Gunditjmara have a vital role in decision-making regarding activities on Gunditjmara Mirring. The decision-making processes may differ depending on the nature of the activity and the statutory or policy requirements that apply. J40. A decision-making process is expected to be established early in the engagement between GMTOAC and a Proponent. J41. Decisions impacting native title rights and interests are made by the Gunditjmara Native Title Holders during their native title meetings, which are typically held regularly. Proponents are expected to engage directly with the Gunditjmara Native Title Holders at these meetings and are required to pay an attendance fee in accordance with the relevant GMTOAC fee schedule. J42. The Gunditjmara expect Proponents to collaborate with GMTOAC to provide information in non-technical, plain language. However, this does not diminish the Proponents' obligation to deliver comprehensive details about their activity and its potential impacts. J43. All communications, including information about proposed activities provided by the Proponent, are required to be in plain English. GMTOAC can guide Proponents on effective ways to communicate with the Gunditjmara to support informed consultation and decision-making. However, the timing of GMTOAC's advice may be affected by the volume of concurrent activities and demands on GMTOAC and Gunditjmara time. J44. A cultural values assessment may be required by Gunditjmara, to be conducted before beginning consultation or negotiations to inform their decision-making. These assessments are used to identify and document both historical and contemporary cultural values associated with all aspects of their Mirring, people, and culture. The resulting reports record these values and map locations of cultural significance and areas of sensitivity. Unlike traditional heritage assessments, such as Cultural Heritage Management Plans under the <i>Aboriginal Heritage Act</i>, cultural values assessments encompass both tangible and intangible cultural heritage. The assessment must be conducted by a third party chosen by GMTOAC and funded by the Proponent. Further details about cultural values assessments can be found in the GMTOAC Cultural Values Assessment Guidelines 2022. J45. Technical experts or specialists may need to be engaged by Gunditjmara to review technical, scientific, or other information and data. These experts will advise GMTOAC and its members on potential risks and impacts associated with an activity. The selection of these technical experts or specialists will be made by GMTOAC, and their costs will be covered by the Proponent.			



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			J46. The Gunditjmara are highly conscious of the risks posed by intersecting and compounding impacts on their land and sea Mirring due to the cumulative effects of Activities over time. As a result, they may require Proponents to provide GMTOAC with cumulative impact assessments (CIAs) that account for all concurrent and proposed Activities that could potentially impact their land and sea Mirring. J47. Alternatively, GMTOAC must be provided with the necessary resources to commission an independent cumulative impact assessment (CIA) J48. Cumulative impact assessments (CIAs) must consider the impacts on Mirring both temporally and spatially as a result of the proposed activities. J49. As to whether the consultation and negotiation process has been meaningful and completed in alignment with the steps outlined in Proposed Protocol, Gunditjmara are the ultimate judges. J50. The Gunditjmara place great importance on privacy and confidentiality. It must be recognised by proponents that certain cultural values related to Gunditjmara Mirring cannot and will not be openly shared. Such information should be acknowledged and handled respectfully, following the guidance provided by the Gunditjmara. J51. Proponents are expected to follow guidance from GMTOAC regarding the appropriate use and storage any shared cultural values. J52. Indigenous Cultural and Intellectual Property (ICIP) ownership rights will remain with the relevant custodians. Proponents must ensure that ICIP rights are respected and upheld. They are required to act in accordance with and respect any cultural protocols related to ICIP as outlined by GMTOAC or the relevant custodians. If a Proponent wishes to use ICIP, they must first obtain the informed consent of the rightful owners and custodians. J53. Gunditjmara are not sufficiently funding to participate in all consultations and negotiations, and they must manage multiple competing priorities. J54. It is essential that proponents provide funding and other assistance to enable genuine consultation and negotiation, as well as to support GMTOAC in building its capacity to engage effectively and promptly with both the Gunditjmara and the Proponent. This support may include, but is not limited to: GMTOAC administration, sitting fees, travel expenses, meeting costs, accommodation, catering, IT and audio-visual recording, legal and technical advice, cultural values assessments, cumulative impact assessments (CIAs), and other necessary resources. J55. Noted that upon request, a GMTOAC fee schedule can be provided. J56. To discuss a proposed activity with the appropriate			

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrh Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrh Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrh Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
2024/11/15	FN-GMTOAC-20241115-Email	Email incoming with letter and Consultation and Negotiation Protocol attached. Note: this Consultation and Negotiation Protocol is the same as the previously provided version.	program officer at the GMTOAC, contact should be via the details provided in the Proposed Protocol. J57: Appendix 1 provided a schematic flow representation of GMTOAC's role and relationship with Gunditjmara. EJA noted the following points: K1. Referred to prior correspondence between GMTOAC and Cooper Energy, including the letter dated 8 November 2024, with defined terms consistent with previous letters. K2. GMTOAC seeks a response from Cooper Energy by 6 December 2024 regarding: a. views on the Consultation Plan approved by Gunditjmara native title holders and shared on 11 November 2024. b. attendance at a February 2025 full group meeting to discuss the Consultation Plan and consultation progress. c. Cooper Energy's willingness and terms for funding: i. reasonable ongoing consultation costs under the Consultation Plan. ii. Independent technical advice on EP(s)' impacts on Gunditjmara Mirring and Nyamat Mirring. iii. a regional assessment of cumulative risks and impacts from proposed activities. d. openness to negotiations with GMTOAC and Gunditjmara on agreements regarding Otway Basin activities. K3. GMTOAC acknowledges the time needed to establish a consultation protocol and emphasises urgency in progressing consultations. Suggestions for efficient consultation in line with the protocol are invited. K4. GMTOAC seeks a respectful and ongoing relationship with Cooper Energy for culturally appropriate consultations. Consultation Plan and February 2025 Meetings K5. GMTOAC has tentatively reserved February 2025 to: a. Facilitate a full group meeting with Gunditjmara native title holders and proponents. b. Determine next steps for consultations on proposed EPs in the Otway Basin. K6. Proponents' informed views on the Consultation Plan and related matters (per paragraph 2) are considered 'crucial' for this meeting by GMTOAC. K7. GMTOAC requests plain-English summaries in advance of the proposed February meeting setting out: a. the details of EPs, including potential risks and impacts to Gunditjmara interests, functions and activities; and b. how each EP addresses Gunditjmara concerns and the sources of this information. K8. EJA, noting that it does not currently hold instructions in respect of such matters, anticipates that it will be instructed to make additional requests for details on risks and impacts related to:	K13: Cooper Energy rejects GMTOAC's assertion that the consultation to date under this EP has not met the required standards under the Regulations. Cooper Energy, as noted above, has made ongoing efforts to make consultation opportunities available to GMTOAC in respect of this EP (and other EPs). Cooper Energy cannot compel relevant persons to engage in consultation and GMTOAC's disinclination to engage in consultation in the reasonable period provided does not mean that the obligation to consult has not been discharged. K14: Cooper Energy has accepted that both GMTOAC and Gunditjmara are relevant persons for the purpose of consultation in respect of this EP. However, Cooper Energy does not accept the characterisation of the 17 February 2024 meeting. Cooper Energy considers that it provided reasonable information at that consultation session to enable GMTOAC and Gunditjmara to consider how the activities proposed under this EP may impact on their interests, activities and functions. Given the nature of the activities proposed under this EP, the length of the session was appropriate – the activities are largely low risk but for in the event of a spill, and the EP considers how the impacts of a spill would be appropriately managed. Cooper Energy notes that the format and structure of the Consultation Day was reflective of the wishes of GMTOAC, and GMTOAC advised in its correspondence on 14 February 2024 that its members would be in attendance. Cooper Energy has made relevant and reasonable information available to GMTOAC in plain English, such that Cooper Energy does not consider it	No specific claims were made about impacts (noting that K8 express indicates that GMTOAC and the Gunditjmara have not given instructions about the listed matters). In any event, those matters are considered in the EP.	FN-GMTOAC-20241128-Email Cooper Energy responded to this letter (and the attached Consultation and Negotiation Protocol) via Norton Rose Fulbright on 28 November 2024. This letter: - confirms that Norton Rose Fulbright acts for Cooper Energy and notes the corporate level name change of Cooper Energy. - acknowledges receipt of the Consultation and Negotiation Protocol that you have provided on behalf of GMTOAC, and confirms that Cooper Energy has reviewed and considered the Consultation and Negotiation Protocol and acknowledges the key principles and themes expressed therein, which it believes to be largely consistent with the approach that it seeks to take when engaging with Traditional Owners - Confirms that Cooper Energy remains committed to genuine and respectful consultation with GMTOAC and the Gunditjmara and that Cooper Energy will engage with the Consultation and Negotiation Protocol to the extent that it is possible and appropriate to do so (taking into account the legal requirements imposed on Cooper Energy in respect of consultation under the Regulations). - Notes that the Consultation and Negotiation is a high level document, that appears to be intended to apply across a number of situations. As such, it does not provide specific or detailed guidance on expected time frames for consultation and negotiations. - Notes that the Consultation and Negotiation Protocol appears to use the terms 'consultation' and 'negotiation' interchangeably, but that the Cooper Energy is required to <i>consult</i> under the Regulations; - Notes that Cooper Energy does not agree with the assertion that Gunditjmara are the ultimate judges on whether the consultation process is ... completed', noting that it is a matter for Cooper Energy to ensure that it has undertaken adequate consultation with relevant persons in accordance with the Regulations. - Confirms that the Otway Operations EP is ready for final submission for acceptance to NOPSEMA and that Cooper Energy intends to submit on 28 November 2024. - Notes that Cooper Energy maintains that consultations with GMTOAC commenced in May 2023 in respect of the Otway Operations EP and over the past 18 months, our client has made considerable efforts to consult with GMTOAC in a manner that is consistent with the approach contemplated in the Consultation and Negotiation Protocol. This is particularly so given that the activities the subject of the Otway Operations EP are ongoing operations, (with first gas production from the relevant titles commencing in 2006), and they are of relatively limited nature and scale, and low complexity, and should not be expected to pose any new risks or impacts to GMTOAC's functions, activities or interests.



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			a. Gundijmara Mirring and Nyamat Mirring, including climate change impacts. b. Sensitive ecosystems and areas of significance. c. Culturally important species in the Gundijmara Nyamat Mirring Plan. d. Noise and light pollution. e. Unplanned spills and incidents. f. Cumulative impacts across all EP activities. K9. Requests advance provision of available information addressing the risks set out at K8 (noting that EJA does not hold its client's instructions to request such information as at the date of the letter). K10. If the February 2025 meeting is not feasible, GMTOAC asks for prompt notification and will consider alternative dates within its constraints and priorities. K11. GMTOAC is aware of Cooper Energy's proposed consultation session planned for prior to 7 December 2024, but notes that consultations with Gundijmara cannot occur (in GMTOAC's view) before February 2025 due to outlined reasons. K12. EJA notes that the GMTOAC board approved the draft Consultation Plan on 5 July 2024. However, the letter indicates that: a. Final approval rested with the full group of Gundijmara native title holders. b. Authorisation occurred on 26 October 2024, and the plan was shared with all proponents and NOPSEMA. c. Sharing drafts earlier would have been culturally inappropriate and potentially non-compliant with legal obligations. Response to Other Matters K13. GMTOAC maintains that prior consultations with GMTOAC and its members have not met the required standards. K14. GMTOAC outlines key points supporting its position: a. GMTOAC and Gundijmara are "relevant persons" under the Regulations. b. RNTBCs hold native title rights communally on behalf of native title holders. c. Decision-making rests with native title holders and operates per traditional law and via authorised meetings. d. The 17 February 2024 meeting with some proponents could not meaningfully progress consultations due to limited time and scope. e. Initial meetings lacked tailored, specific information and responses to Gundijmara concerns. f. GMTOAC has since: i. Obtained technical advice on EPs. ii. Developed the Consultation Plan. iii. Communicated updates despite unexpected delays. g. Technical advice was finalised on 12 November 2024, requiring further discussion and instructions before February	was necessary for GMTOAC to consider the entirety of the EP to assess the potential impacts on the activities, functions and interests of GMTOAC and Gundijmara. Cooper Energy does not agree that the sharing of the Proposed Consultation Plan marks the start of meaningful consultation, and considers that such consultation commenced with GMTOAC as set out in this table. We note that Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 states that it must be taken to be the regulatory intention that the consultation requirement cannot be one that is incapable of being complied with within a reasonable time. Notwithstanding reasonable cultural accommodations, GMTOAC have had more than 12 months to engage in consultation in respect of this EP, which Cooper considers is reasonable given the nature of the EP and likelihood of impacts. Cooper Energy does not consider that the FPIC principles proposed by EJA form part of the relevant legal requirements for consultation in connection with this EP. K18: Cooper Energy does not consider the delays to be reasonable, for the reasons set out above. K24: Cooper Energy notes that the Consultation Day is not the only opportunity that was made available to GMTOAC and its members to consult in respect of this EP – they, as a relevant person, were given 12 months to engage about concerns they may have held and seek any additional information required.	- Notes that had not understood GMTOAC to have a high level of concern or interest about this type of activity, and refer to your letter dated 21 March 2024, which said "The present focus of GMTOAC's concerns are on those projects that appear to be more impactful on Gundijmara Sea Country, including those involving seismic survey or drilling activity...", neither of which are provided for under this EP. - Notes that the obligation on Cooper Energy is to provide opportunities for consultation with relevant persons – not that relevant persons must engage with those opportunities. The responses provide details as to the ways in which Cooper Energy has provided those reasonable opportunities. - acknowledges the request contained at paragraph 2(c) of the 15 November 2024 letter (and also in the Consultation and Negotiation Protocol) for funding and other support and confirms that it is willing to fund the reasonable costs of GMTOAC and the Gundijmara people to facilitate ongoing engagement in relation to this EP.	



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			2025. h. The finalised Consultation Plan marks the start of meaningful consultations. i. Resource and expertise limitations hinder GMTOAC's ability to manage consultations. j. GMTOAC faces overlapping consultation requests from multiple proponents with complex impacts. k. GMTOAC values proponents' commitment to First Nations principles, including values within UNDRIIP, but stresses the need for proper accommodations in consultations. l. Regulatory compliant consultation requires engagement informed by the described context. m. Full consultation requires engagement with all Gunditjmara native title holders. K15. GMTOAC highlights competing obligations and pressures on its resources, including: a. Native Title Act matters. b. Renewable energy developments. c. Treaty and Truth Telling issues. d. Cultural heritage matters. e. Land and sea management projects. f. Managing heritage-listed areas, including Budj Bim Cultural Landscape. g. Concurrent consultation requests under the Regulations. K16. These challenges are compounded by GMTOAC's operational and resource constraints and the personal obligations of Gunditjmara people. K17. GMTOAC asks proponents to recognise these factors to enable equitable and effective consultations. K18. GMTOAC addresses prior delays, noting they: a. Lacked experience with the Regulations before 2023. b. Received no additional funding for consultations. c. Have taken reasonable steps to progress consultations. d. Are unlikely to have such delays in the future now the consultation plan is in place Legal and Regulatory Context K19. Proponents are legally required to: a. Consult genuinely with relevant persons. b. Provide sufficient information for informed assessments. c. Allow reasonable time for responses. K20. As established in Tipakalippa, consultation must meet the Regulations' standards to align with environmental law principles. K21. Proper consultation with each relevant person is required to meet the objects of the EPBC Act. K22. The Court emphasised meaningful consultation tailored to the communal nature of native title rights. K23. Consultation must account for the complexity of multiple, overlapping projects. K24. Brief, incomplete meetings cannot suffice for adequate			

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			consultation on technical and environmental risks. K25. GMTOAC clarifies: a. Consultation rights are communal under Gunditjmara law. b. Full group meetings are needed for meaningful consultation. c. GMTOAC has acted reasonably to prepare for consultations. K26. GMTOAC invites proponents to the February 2025 meeting to continue consultation. Next Steps K27. GMTOAC acknowledges commercial pressures on proponents but stresses its own resource limitations. K28. During the 17 February 2024 session, Cooper Energy acknowledged: a. The session was informational, not consultative. b. Respect for internal Gunditjmara processes is needed. c. Two-way conversations are key to understanding. K29. GMTOAC views its role in consultation as vital to protecting Gunditjmara native title rights. K30. GMTOAC accepts Cooper Energy's offer for consultation, aiming to: a. Build a working relationship. b. Assess potential impacts on Gunditjmara lands. c. Address cumulative impacts of proposed activities. d. Allow sufficient time for proper consultation in accordance with Gunditjmara laws and Regulations.			
Letters from GMTOAC and/or EJA sent directly to NOPSEMA and shared with Cooper Energy for procedural fairness						
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G1: Noted the letter was written on behalf of Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) regarding the Environment Plans referred to as the 'TGS EP', 'Cooper Energy EP' and 'Woodside Energy EP'. These three EPs are currently being assessed by NOPSEMA.	As per point 1 in letter from GMTOAC dated 5 February 2024 with respect to Cooper Energy.	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G2: GMTOAC serves as a Registered Native Title Body Corporate under the <i>Native Title Act 1993</i> (Cth) and is also recognised as the Registered Aboriginal Party under the <i>Aboriginal Heritage Act 2006</i> (Vic), representing the Gunditjmara people.	NA	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G3: Gunditjmara Country is situated in southwest Victoria, and extends to and beyond Deen Maar and includes a region shared with the Eastern Maar Peoples.	NA	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G4: The EPs mentioned involve proposed activities in the Otway Basin, encompassing the Sea Country of the Gunditjmara people. These waters are essential breeding and habitat areas for species of cultural importance and are rich in both intangible and submerged tangible heritage. Significant elements include:	As per point A3 in letter from GMTOAC with respect to Cooper Energy. These tangible and intangible cultural heritage values have been specifically considered in the preparation of this	No objections or claims about adverse impact.	NA

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			- Deen Maar Island (Lady Julia Percy Island) and its surroundings, which hold profound spiritual meaning for the Gundijmara people. - The migration of Kooyang (short-finned eel) from the Budj Bim World Heritage Area in Gundijmara Country, through the Otway Basin to the Coral Sea. These eels are deeply embedded in Gundijmara culture and play a central role in the Budj Bim World Heritage Area, known as one of the oldest aquaculture systems in the world. - Kartubul (whales) within Gundijmara Sea Country are culturally significant, appearing in Dreaming stories, ceremonies, songs, and dances. - The Bonney Upwelling, a major ecological feature, supports crucial feeding grounds for culturally important species and plays a key role in marine and coastal ecosystems in Gundijmara Sea Country.	EP, in response to consultation with relevant persons. Section 7 sets out this consideration. Each of these values are addressed.		
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G5. Due to the cultural connections and responsibilities associated with the Sea Country and its marine wildlife, which could be impacted by the proposed activities in the mentioned EPs, GMTOAC, as a representative body, qualifies as a "relevant person" with "functions, interests or activities" under section 25(1)(d) of the <i>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023</i> ("the Regulations"). Additionally, each Traditional Owner who is a member of GMTOAC is also considered a "relevant person" with interests in the areas covered by the EPs, as defined by section 25(1)(d) of the Regulations.	As per point A2 in letter from GMTOAC with respect to Cooper Energy whereby GMTOAC notes that Cooper Energy considers GMTOAC and each member a relevant person. (They are Relevant Persons as it was considered their functions, interests or activities may be affected be affected). The EP acknowledges their cultural ties to and responsibility for Sea Country and has sought to incorporate their wish to engage in management of Sea Country in the EP. We note that section 7 refers to Traditional Owners or First Nations people – but this broader description captures the cultural interests and activities of GMTOAC. The impacts on waters and marine species, and associated cultural connections and responsibilities, are specifically considered in the EP in Section 7.	Claims of potential impacts by the proposed activities may have merit and were carefully assessed. With proposed control measures, impacts have been assessed as being ALARP and acceptable. The impacts on waters and marine species, and associated cultural connections and responsibilities, are specifically considered in the EP in Section 7.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G6. Each of the proponents for the three listed EPs has reached out to GMTOAC regarding consultation with the corporation and its members. From the correspondence between the proponents and GMTOAC, it is understood that Woodside Energy, Cooper Energy, and TGS explicitly recognize GMTOAC and all its individual members as "relevant persons."	Noted and agreed as above.	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G7. GMTOAC follows a full-participation model of representation, ensuring that all its members are notified and given the opportunity to participate in decision-making	As per point A5 in letter from GMTOAC where GMTOAC outlines its inclusive governance model.	No objections or claims about adverse impact.	NA

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	processes, including consultations with project proponents, which could impact their interests as Gundiitjmarra people. G8. Given that each GMTOAC member is a "relevant person" for the three EPs, the consultation conducted by the proponents must ensure proper notice and participation by all GMTOAC members. Simply corresponding with or meeting only GMTOAC program staff does not fulfill the proponents' obligation to consult with all relevant persons.	As per point A6 in letter from GMTOAC with respect to Cooper Energy.	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G9. Furthermore, GMTOAC is concerned that, as a representative body, it has not been provided with sufficient information or enough time to engage effectively in consultation with the proponents. This issue is especially pronounced in situations where proponents have not made efforts to coordinate or stagger consultations to allow for adequate participation.	As per point A6 in letter from GMTOAC with respect to Cooper Energy. Cooper Energy had, at the date of this letter, sought to provide reasonable information to GMTOAC and has, since the date of this letter, continued to provide relevant, detailed and targeted information relevant to the their stated interests and functions and the activities. Cooper Energy notes that there are significant legal and commercial difficulties in coordinating with competitor producers and proponents on consultation. Cooper Energy has sought, however, to accommodate GMTOAC's concerns that there are a number of projects requiring consultation in its Sea Country by providing ample time for consideration of material and consultation to occur.	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G10. GMTOAC has informed each proponent about the inadequacy of consultation as follows: a. TGS: During an online meeting with TGS representatives on June 6, 2023, GMTOAC staff stated that consultation must include notice to all community members represented. b. Cooper Energy: In an email dated December 11, 2023, GMTOAC informed Cooper Energy that further consultation was needed and would require a community meeting. c. Woodside Energy: During a meeting with Woodside Energy on June 29, 2023, GMTOAC staff clarified that presenting information to staff alone did not qualify as consultation with GMTOAC or its members.	Confirmed comment related to Cooper Energy was contained in correspondence from GMTOAC dated 11 December 2023. Noted that the Consultation Day was planned in response to this comment.	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G11. To date, none of the three proponents have provided GMTOAC members with the opportunity to be directly consulted. Additionally, none of the proponents have given GMTOAC members a "reasonable opportunity" to receive essential information or participate in consultation regarding the proposed activities. G12. Therefore, we wish to inform NOPSEMA that the	As per points A4 and A6 in letter from GMTOAC dated 5 February 2024 with respect to Cooper Energy. We note that this letter pre-dated the Consultation Day.	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA		As per point A5 in letter from GMTOAC with respect to Cooper Energy.	No objections or claims about	NA

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			Gundijmara people, whose interests could be impacted by the activities outlined in the three EPs, have not been consulted. Under these conditions, the proponents have not yet complied with the Regulations, making any acceptance of the EPs by NOPSEMA invalid.	Cooper Energy accepts that the Gundijmara peoples interests may be affected by the activities as relevant persons and has sought to consult with them (via GMTOAC as their corporate representative) and address these impacts in the EP.	adverse impact.	
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	Planned next steps			NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G13. Over the past 14 months, six different companies have reached out to GMTOAC, requesting their participation in and administration of consultation processes mandated by the regulatory framework for various projects in or affecting Gundijmara Sea Country in the Otway Basin. These projects include the activities proposed in the three EPs mentioned above, as well as other initiatives in the petroleum and renewable energy sectors.	As per point A6 in letter from GMTOAC regarding sufficient time and information, and point C10 in letter from EJA with respect to multiple proponents. While Cooper Energy appreciates that there are a number of projects seeking to engage with GMTOAC, Cooper Energy cannot coordinate its project timelines or 5 year renewal requirements with other project proponents for legal and commercial reasons.	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G14. This situation has significantly strained GMTOAC's resources and its ability to meet its responsibilities to its members regarding each proposed activity. GMTOAC considers thorough consultation essential for member participation and attributes this strain to the proponents' failure to coordinate or stagger their consultation efforts, which would allow sufficient time for participants to assess the associated risks and impacts. Although proponents have presented timelines and emphasized urgency in their consultation processes, GMTOAC is unclear as to why such urgent or unrealistic deadlines are being imposed.	As per point C10 in letter from EJA with respect to Cooper Energy. As above, while Cooper Energy appreciates that there are a number of projects seeking to engage with GMTOAC, Cooper Energy cannot coordinate its project timelines or 5 year renewal requirements with other project proponents for legal and commercial reasons. Cooper Energy has sought to allow ample time for GMTOAC to consider the potential impacts of the activities proposed under this EP, noting the time constraints raised by GMTOAC.	No objections or claims about adverse impact.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G15. The waters and the species within them, which could be impacted by these projects, are of immense importance to GMTOAC and its members. It is essential that the Gundijmara people, who may be affected by these projects, are given sufficient time to fully understand the proposed activities, determine exactly how their interests might be impacted, and develop their responses accordingly.	As per points A3 and A6 in letter from GMTOAC. The impacts on waters and marine species are specifically considered in the EP in section 7. Cooper Energy considers that GMTOAC and the Gundijmara people have been given ample time to consider potential impacts as part of consultation.	Claims of potential impacts by the proposed activities may have merit and were carefully assessed. With proposed control measures, impacts have been assessed as being ALARP and acceptable. The impacts on waters and marine species are specifically considered in the EP in section 7.	NA
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G16. To provide GMTOAC and its members with an initial opportunity to gather preliminary information about each	As per point A7 in letter from GMTOAC.	No objections or claims about adverse impact.	NA



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			project, GMTOAC has scheduled a community meeting for February 17, 2024. Woodside Energy, Cooper Energy, and TGS have been invited to present their proposed activities at this meeting. GMTOAC emphasizes that this meeting is not intended to, and will not, fulfill the consultation requirements under the Regulations. Instead, it aims to help community members determine if and how they wish to be consulted on each proposal and engage with proponents about the next steps in the consultation process. GMTOAC has informed each proponent of the purpose of this community meeting.	Cooper Energy also notes for completeness that this was not the basis on which the Consultation was initially proposed.		
2024/02/05	FN-GMTOAC-20240205-Email	Incoming letter via NOPSEMA	G17. As mentioned earlier, proper consultation with GMTOAC and its members has not taken place during the preparation of the specified EPs. Therefore, NOPSEMA must refrain from accepting these EPs until adequate consultation occurs. This step is necessary to ensure that proponents consider the interests and concerns of GMTOAC and its members and incorporate those considerations, including relevant mitigation measures, into the EP before it is submitted to NOPSEMA.	As per point A6 in letter from GMTOAC. Cooper Energy does not agree with this assertion, but notes for completeness that further consultation occurred after that date of this correspondence.	No objections or claims about adverse impact.	NA
2024/04/04	FN-GMTOAC-20240404-Email	Incoming letter via NOPSEMA	H1. Environmental Justice Australia (EJA) represents the Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) regarding proposed offshore petroleum projects in the Otway Basin. H2. GMTOAC serves as the corporate representative of the Gunditjmarra people. H3. GMTOAC wishes to inform NOPSEMA that it has been approached by Beach Energy, CGG, ConocoPhillips, Cooper Energy, TGS, and Woodside Energy regarding several Environment Plans (EPs) and Offshore Project Proposals (OPPs), including: a. The Offshore Gas Victoria Drilling Program EP by Beach Energy (awaiting submission to NOPSEMA). b. The Otway Offshore Gas Victoria Project OPP by Beach Energy (currently open for public comment). c. The Regia Marine Seismic Survey EP by CGG (awaiting submission to NOPSEMA). d. The Otway Exploration Drilling Program EP by ConocoPhillips (under assessment by NOPSEMA). e. The Otway Offshore Operations – Casino, Netherby & Henry Revision EP by Cooper Energy (under assessment with the titleholder). f. The East Coast Gas Supply Project OPP by Cooper Energy (in development). g. The Otway Basin 3D Multi-client Marine Seismic Survey EP by TGS (under assessment with the titleholder). h. The Minerva Plug and Abandonment and Field Maintenance EP by Woodside Energy (under assessment with the titleholder). i. The Minerva Decommissioning and Field Management EP by Woodside Energy (under assessment by NOPSEMA).	As per point B1 in letter from EJA. As per point B2 in letter from EJA. Information for NOPSEMA.	No objections or claims about adverse impact. No objections or claims about adverse impact. No objections or claims about adverse impact.	NA NA NA



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
				Information for NOPSEMA as decision maker – noted.		NA
			H4. For the purposes of this correspondence, GMTOAC wishes to ensure that NOPSEMA considers the following matters when reviewing the EPs currently under assessment. H5. On March 21, 2024, EJA, on behalf of GMTOAC, wrote to the proponents of the mentioned EPs and OPPs, emphasizing the following: a. Based on communications between the proponents and GMTOAC, it is understood that proponents consider GMTOAC and its members as "relevant persons" under the <i>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023</i>. If not, proponents were asked to clarify. b. The law mandates that GMTOAC and its members, as "relevant persons," must be given reasonable opportunities for consultation that is "appropriate and adapted to the nature of the interests" of the Gundijmara people when their communal interests may be impacted. c. GMTOAC maintains that effective consultation requires more than emails and information sheets sent to staff or officers without decision-making authority. The corporation views offshore petroleum activities as highly consequential to their interests. d. The law obligates proponents to provide adequate time for consultation with GMTOAC and its members. e. GMTOAC stated that interactions so far do not meet the criteria for consultation and that proper consultation has not yet started with the proponents. f. GMTOAC needs independent technical advice to evaluate the impacts of proposed activities on Gundijmara Sea Country, both individually and cumulatively, due to the complex nature of the EPs and OPPs and its obligations to its members. g. This independent advice is essential for GMTOAC and its members to understand the potential impacts and implications of proposed activities on their interests, including cultural and traditional ties to Sea Country. h. Information provided during the February 17, 2024, information session by proponents was limited and intended only as an introduction, helping GMTOAC decide whether further consultation was necessary. i. GMTOAC plans to provide a consultation plan outlining consultation standards and parameters by late May 2024, contingent on obtaining the required technical advice. j. GMTOAC has instructed that all correspondence regarding these EPs and OPPs should be directed to EJA through specified email addresses or by phone.	As per points in B6 in letter from EJA, Cooper Energy agrees with point 'b'. Cooper Energy considers that it has ongoingly sought to engage with GMTOAC and its members in respect of consultation. Cooper Energy accepts that GMTOAC consider offshore petroleum activities are highly consequential to their interests, and notes that these interests have been extensively considered in the preparation of this EP. Cooper Energy reiterates that ample time has been afforded to GMTOAC and its members to consult in respect of this EP, and reasonable information has been provided. Cooper Energy has not received a consultation plan as at 5 November 2024.	No objections or claims about adverse impact.	NA

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique references added where needed for clarity. (EP references added for context as appropriate)
			H6. GMTOAC is actively continuing with the actions mentioned above.	Information for NOPSEMA.	No objections or claims about adverse impact.	NA
			H7. GMTOAC upholds all the representations previously mentioned.	Information for NOPSEMA.	No objections or claims about adverse impact.	NA
			H8. GMTOAC continues to assert its rights and the rights of its members to be consulted on the aforementioned projects, as mandated by law.	Information for NOPSEMA.	No objections or claims about adverse impact.	NA
			H9. This information is being presented to NOPSEMA to ensure that it has all relevant details when assessing the EPs.	Information for NOPSEMA.	No objections or claims about adverse impact.	NA
2024/04/04	FN-GMTOAC-20240625-Email	Incoming letter via NOPSEMA	I1. Environmental Justice Australia (EJA) continues to represent Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTOAC) in matters related to consultation on offshore petroleum activities and projects that may impact Gunditjmarra Sea Country.	As per point C1 in letter from EJA.	No objections or claims about adverse impact.	NA
			I2. GMTOAC serves as the corporate representative of the Gunditjmarra people.	As per point B2 in letter from EJA. Noted.	No objections or claims about adverse impact.	NA
			I3. We are writing to NOPSEMA on behalf of GMTOAC regarding the following Environment Plans (EPs) that are currently under assessment: a. Offshore Gas Victoria Drilling Program EP by Beach Energy (under assessment with the titleholder as of June 25, 2024); b. Regia Marine Seismic Survey EP by CGG (under assessment with NOPSEMA as of June 25, 2024); c. Otway Exploration Drilling Program EP by ConocoPhillips (under assessment with the titleholder as of June 25, 2024); d. Otway Offshore Operations – Casino, Netherby & Henry Revision EP by Cooper Energy (under assessment with NOPSEMA as of June 25, 2024); e. Otway Basin 3D Multi-client Marine Seismic Survey EP by TGS (under assessment with NOPSEMA as of June 25, 2024); f. Minerva Plug and Abandonment and Field Maintenance EP by Woodside Energy (under assessment with the titleholder as of June 25, 2024); g. Minerva Decommissioning and Field Management EP by Woodside Energy (under assessment with NOPSEMA as of June 25, 2024).	Information for NOPSEMA. NA.	No objections or claims about adverse impact.	NA
			I4. We confirm that our client, GMTOAC, has received requests for consultation from the proponents—Beach Energy, CGG, ConocoPhillips, Cooper Energy, TGS, and Woodside Energy—regarding the submitted EPs listed in paragraph I[3].	Information for NOPSEMA. NA.	No objections or claims about adverse impact.	NA
			I5. Annexure 1 of this letter includes a summary of the correspondence between GMTOAC and the proponents mentioned above concerning the EPs that are currently under assessment by NOPSEMA.	Information for NOPSEMA. NA.	No objections or claims about adverse impact.	NA
			I6. GMTOAC maintains that the interactions that have	As per point A6 in letter from GMTOAC.	No objections or claims about	NA

Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
			occurred so far between GMTOAC members and the proponents do not legally qualify as consultation on the EPs mentioned.	– Cooper Energy disagrees with this assertion and considers that extensive reasonable efforts have been made to consult with GMTOAC in respect of this EP. These efforts, based on the time, structure, methodology and information provided legally qualify as consultation on the EP. As per point A6 in letter from GMTOAC and above, Cooper Energy notes this assertion and disagrees for the reasons set out.	adverse impact.	
			I7. GMTOAC has informed each proponent listed in paragraph [4] that proper consultation has not taken place. GMTOAC has consistently requested that the proponents engage in a consultation process that complies with legal requirements		No objections or claims about adverse impact.	NA
			I8. GMTOAC has expressed its concerns regarding the lack of consultation on the EPs in common correspondence sent to all six proponents on March 21, 2024.		No objections or claims about adverse impact.	NA
			I9. GMTOAC has sent further correspondence to the proponents, reiterating its position on the lack of proper consultation.		No objections or claims about adverse impact.	NA
			I10. NOPSEMA has been included in all subsequent correspondence sent by EJA on behalf of GMTOAC to the proponents following the initial correspondence dated March 21, 2024.		No objections or claims about adverse impact.	NA
			I11. GMTOAC and its members are currently developing a consultation protocol (the GMTOAC Consultation Plan) that will outline GMTOAC's stance on consultation between proponents and its members. The plan is expected to be shared with proponents after GMTOAC's next Board meeting, which has been rescheduled from June 28, 2024, to July 5, 2024, due to Sorry Business within the Gundijimara community.		No objections or claims about adverse impact.	NA
			I12. We note that consultation timelines between proponents and GMTOAC members must consider that consultation with Traditional Owners requires a carefully co-designed process. This process must include opportunities for all members to provide input on the consultation structure and for all members to participate fully in the consultation itself.		No objections or claims about adverse impact.	NA
			I13. We further note that consultation timelines must allow sufficient time for GMTOAC and its members to obtain necessary technical, legal, or other preliminary advice and information to help them fully understand the proposed activities and projects.		No objections or claims about adverse impact.	NA
			I14. We advise that none of the engagements between proponents and GMTOAC and its members to date have reflected the considerations outlined above. GMTOAC does not recognize these interactions as consultation, as there has been no engagement with its members under these conditions.		No objections or claims about adverse impact.	NA



Date	Reference	Method	Summary of each response of relevant person response, objection or claim (Cwrth Reg 24(b)(i))	Cooper Energy's assessment of merit of general assertions	Cooper Energy's assessment of merit of any objection or claim about the adverse impact of each activity to which the EP relates (Cwrth Reg 24(b)(ii))	Cooper Energy communication, or response to objection or claim (Cwrth Reg 24(b)(iii)) or General Response (Cooper Energy's response to queries, comments or assertions). Unique reference added where needed for clarity. (EP references added for context as appropriate)
				authority to unilaterally refuse to recognise valid consultation efforts as consultation for the purpose of the Regulations and this EP.		
			I15. GMTOAC has actively sought and continues to seek independent technical advice from various experts to support its members in participating in consultation. While some advice has already been received, additional advice is still expected.	As per point B9 in letter from GMTOAC and E9 in letter from EJA.	No objections or claims about adverse impact.	NA
			I16. Since the aforementioned EPs have been submitted to NOPSEMA for assessment without prior consultation with GMTOAC and its members during their preparation, GMTOAC seeks information and clarification from NOPSEMA regarding the process and timeline for the assessment of these EPs. It is noted that these EPs will not include the distinctive information, knowledge, or insights necessary for proponents to understand, perceive, or appropriately mitigate the impacts and risks identified by GMTOAC and its members related to the proposed activities. This vital input can only be obtained through proper consultation, which GMTOAC is actively preparing for.	Request to NOPSEMA but Cooper Energy notes for completeness that EJA/GMTOAC have been advised as to how information provided has informed the environment plan as per FN-GMTOAC-20240523-Email.	No objections or claims about adverse impact.	NA
			I17. GMTOAC requests that NOPSEMA provide the Corporation with copies of all EPs listed in paragraph [3] that are currently under review by NOPSEMA and have undergone substantive amendments but are not publicly available.	Request to NOPSEMA. NA.	No objections or claims about adverse impact.	NA
			I18. To assist with addressing the above queries, we kindly request a meeting involving NOPSEMA, GMTOAC, and EJA. We are available for this meeting either in person (in Victoria) or online.	Request to NOPSEMA. NA.	No objections or claims about adverse impact.	NA
			I19. Our client, GMTOAC, is currently making all reasonable efforts and taking necessary steps to prepare its members for engagement in consultation regarding the aforementioned EPs in the Otway Basin.	As per point E16 in letter from EJA. NA.	No objections or claims about adverse impact.	NA
			I20. We kindly request that you respond to the matters outlined above at your earliest convenience and no later than the close of business on July 2, 2024.	Request to NOPSEMA. NA.	No objections or claims about adverse impact.	NA

Table 11-8 Consultation demonstration (GMTOAC)

Consultation demonstration			
Item	Regulation/guidance	Description	How achieved
Sufficient information	Cwth Regulation 25(2) and Vic Regulation 13F	For the purpose of the consultation, the titleholder must give each relevant person sufficient information to allow the relevant person to make an informed assessment of the possible consequences of the activity on the functions, interests or activities of the relevant person.	- Information was provided directly to GMTOAC via email - This email included an overview of the proposed activity and the purpose of consultation, a link to our dedicated activities website, and an invitation to consult with us. We also sought direction on GMTOAC's preferred method of consultation. - Our activities website provided further details about the activity, the location and duration of the activity, potential unplanned events, and the associated impacts and risks. The website provided information in a clear and user-friendly format, and in plain and non-technical terms. - Our activities website provided a link to the NOPSEMA brochure "Consultation on offshore petroleum plans- information for the community" - We presented to GMTOAC and its members, in the bespoke form that they requested, at a Consultation Day held on 17 February 2024. This event was expressly advertised by GMTOAC on its social media and website as a 'Consultation Day' on at least three instances, and was described as "An opportunity for Gundijmara to hear from oil and gas proponents who are seeking to pursue projects within Nymat Mirring", "an opportunity [for the proponent] to present on their project and answer questions". These advertisements actively encouraged members to "Help shape the feedback on these proposed activities" and "be a part of the important conversations effecting Nymat Mirring". Cooper Energy assisted in funding the consultation day as requested by GMTOAC. Cooper Energy considered that GMTOAC advertising the consultation day was the most appropriate avenue to ensure maximum exposure of the Consultation Day to its members and other interested Gundijmara people. - Our presentation at Consultation Day allowed us to present information in another format, that was readily accessible and appropriate, and included images and photos to help describe current activities. There was also a Q&A segment to our presentation, which allowed for a meaningful two-way dialogue, including discussion of measures to manage impacts and risks to elements of Sea Country that were raised by GMTOAC as being of particular importance to Gundijmara. We had subject matter specialists attend the Consultation Day, so that they would be able to respond to questions promptly and accurately. - The questions raised by attendees at the Consultation Day, and subsequently, demonstrated that the ongoing activities and potential impacts have been considered and understood by GMTOAC. - We have responded to all questions received in correspondence from GMTOAC, and its legal representatives EJA, throughout our consultation. - We note that GMTOAC has also arranged a 3-part online presentation series for members on 'Potential impacts of offshore petroleum activities on Nymat Mirring (Sea Country)', which was presented by 3 different subject matter specialists with legal, environmental and academic backgrounds. These presentations were advertised on GMTOAC's website and social media account. The stated objective of this was "to provide Gundijmara access to research and information that is independent of the petroleum industry", to "Hear from a number of marine experts and academics that will provide insights into the potential impacts of offshore petroleum projects" and "for Gundijmara to be better informed of potential impacts and enable Gundijmara feedback on the proposed offshore activities". - Following the above, no further feedback or requests for additional information from GMTOAC, or individual members, has been received regarding the potential impacts of the activities on their functions, interests or activities. - Consultation with GMTOAC commenced on 16 February 2023 via letter.. There have been multiple communications and interactions between us since this time, as shown in the consultation summary table, and the activities were presented during GMTOAC's Consultation Day - We published advertisements in the Koori Mail, the Herald Sun, and in regional media along the Victorian coastline in late April/ May 2023 advising of the proposed activities, directing readers to our activities website and seeking feedback from relevant persons. - Our activities website has been published, since May 2023, and a link sent directly to GMTOAC on 29 May 2023. - We have provided information to, and engaged in discussions with, GMTOAC on this specific EP for over 18 months, demonstrating a reasonable period for consultation. Applicable benchmarks for activities of this nature and scale (and greater than) apply consultation periods typically of between 4-12-weeks. - More than 6 months have passed since our in-person presentation to GMTOAC in February 2024, where opportunities for follow up have been provided. - During the consultation process, we advised GMTOAC that it could request that particular information provided in the consultation process not be published.
Sufficient time	Cwth Regulation 25(3) and Vic Regulation 13F	The titleholder must allow a relevant person a reasonable period for the consultation.	
Sensitive information	Cwth Regulation 25(4)(a)	The titleholder must tell each relevant person the titleholder consults that:	

Otway Offshore Operations Environment Plan

Operations | Otway Basin | EP

			(a) the relevant person may request that particular information the relevant person provides in the consultation not be published; 15) The implementation strategy must provide for appropriate consultation with: (b) other relevant interested persons or organisations. The environment plan must contain the following: b) a report on all consultations under section 25 of any relevant person by the titleholder, that contains: (i) a summary of each response made by a relevant person; The environment plan must contain the following: b) a report on all consultations under section 25 of any relevant person by the titleholder, that contains: (ii) an assessment of the merits of any objection or claim about the adverse impact of each activity to which the environment plan relates		17. We will engage in ongoing consultation with all relevant persons throughout the life of the project. It has been articulated to GMTOAC how feedback received after the EP has been accepted will be managed through our Management of Change and revision process. 18. A summary of each response is included in the EP
Summary of each response	Cwth Regulation 22 (15)(b) and Vic Regulation 16(8)(b)	Cwth Regulation 24(b)(i) and Vic Regulation 19(b)			19. We have assessed the objections and claims (as defined by the Regulations) raised by GMTOAC during the consultation process, and undertaken a merit assessment of each of these objections and claims. GMTOAC raised four specific concerns regarding culturally significant species and cultural heritage, being: a. Deen Maar Island (Lady Julia Percy Island) b. Kooyang (short-finned eel) c. Karnubul (whales) d. The Bonney upwelling 20. We have captured our assessment of these claims and objections in the consultation summary tables. 21. We have responded to all correspondence received from GMTOAC, and its legal representative EJA, and provided our feedback on each objection or claim made therein. 22. We have captured our responses to GMTOAC in the consultation summary tables.
Assessment of claims and objections	Cwth Regulation 24(b)(ii) and Vic Regulation 19(b)				23. The full text record of our exchanges with GMTOAC are contained in Appendix 4 as sensitive information. 24. We sought direction on GMTOAC's preferred method of consultation. This resulted in us presenting to them in their preferred format, at the Consultation Day meeting on 17 February 2024.
Response to claims and objections	Cwth Regulation 24(b)(iii) and Vic Regulation 19(b)				25. We have addressed specific concerns raised by GMTOAC regarding culturally significant species and cultural heritage regarding: a. Deen Maar Island (Lady Julia Percy Island) b. Kooyang (short-finned eel) c. Karnubul (whales) d. The Bonney upwelling 26. We also reviewed the published GMTOAC Gundimara Nyamat Mirring (Sea Country) plan to better understand their environmental values and cultural sensitivities, and used this to further inform the impact and risk assessment within the EP.
Full text	Cwth Regulation 24(b)(iv) and Vic Regulation 19(b)				27. We presented to GMTOAC in February 2024, at a Consultation Day. GMTOAC provided us prior notice of the values and sensitivities important to them; our presentation was developed and delivered in a manner that acknowledged and discussed the activities, impacts and risks in relation to these particular values and sensitivities. The presentation included a Q&A session with members online and in person, which provided meaningful two-way dialogue. The presentation was provided electronically to GMTOAC in a format requested by them, and we were also informed on the day that the consultation day was being recorded on video, to be provided by GMTOAC to members who may not have been able to attend the meeting. 28. Since the Consultation Day presentation, we have remained co-operative, amicable and open to further meetings, questions or requests for information. 29. We have also had written exchanges with GMTOAC, and/or their legal representatives EJA, for 6 months since Consultation Day which demonstrates a two-way dialogue. In these exchanges, we have answered all questions, objections and claims that have been raised. 30. We have made numerous attempts over the last 6 months to arrange additional meetings and engage in in-person, two-way dialogue. 31. We have also provided a clear point of contact, in our extended enquiry efforts, should any individual GMTOAC members want to be consulted directly. 32. GMTOAC has made comments in their correspondence, that consultation has not even commenced with them as yet. We disagree with this, based on the efforts we have made in good faith since February 2023, as outlined above. Our openness and availability to consult are apparent from the consultation summary report. Our consultation obligations do not require us to wait indefinitely to receive further directions on how a particular consultee wishes to be
Consultation appropriate to relevant person	NOPSEMA Guideline - Consultation in the course of preparing an environment plan		 carefully considering what the appropriate consultation processes are for each relevant person and adapting those processes to the nature of the authority, persons and organisations to be consulted.		
Consultation informs an understanding of the environment	NOPSEMA Guideline - Consultation in the course of preparing an environment plan		The requirement to include details of the environmental impacts and risks into an environment plan cannot be met without an understanding of the social, economic and cultural features of the environment.		
Genuine and meaningful consultation	NOPSEMA Guideline - Consultation in the course of preparing an environment plan		Consultation should be a genuine and meaningful two-way dialogue in which relevant persons are given sufficient information and time to allow them to make an informed assessment of the possible consequences of the activity on their functions, interests or activities		

Consultation method should be appropriate	NOPSEMA Guideline - <i>Consultation in the course of preparing an environment plan</i>	Where interests are held communally, the method of consultation will need reasonably to reflect the characteristics of the interests affected by the proposed petroleum activity	consulted (noting that such further directions may be impracticable in any case), or to obtain confirmation that consultation has been carried out to their individual satisfaction. 33. We have reviewed relevant Country plans, regulatory guidance and case law, in planning our consultation method for First Nations groups with communal interests, to ensure that it is respectful, effective and appropriately adapted. 34. Emails were sent to GMTTOAC requesting advice on how consultation could be conducted. 35. We have attended the Consultation Day, which was organised by, and set up in a format designed by, GMTTOAC. GMTTOAC provided us prior notice of the values and sensitivities important to them; these are consistent with the Gunditjmara Nyamat Mirring Plan 2023-2033 that was noted on the GMTTOAC website in March 2024. Our presentation was developed and delivered in a manner that acknowledged and discussed the activities, impacts and risks in relation to these particular values and sensitivities. 36. GMTTOAC has made comments in their correspondence (as noted in the consultation summary report), that we have not provided an opportunity for GMTTOAC members to be consulted. However, we disagree with this position, and refer to our methodology for consulting with First Nations Groups and First Nations Persons as set out in section 11 of the EP. 37. Further, it is clear that GMTTOAC acts as a conduit to members, stating in correspondence dated 5 February 2024 that "We operate through an inclusive governance model, whereby all members are invited to, and given a genuine opportunity to, provide input on matters affecting Country in relation to which they hold rights and responsibilities." (GMTTOAC letter dated 5 February 2024, emailed 14 February 2024) 38. To go outside their governance model and endeavour to contact individual members directly, would be inappropriate, disrespectful and inconsistent with how we treat other organisations that represent communal interests. It may be seen to undermine GMTTOAC's authority or indicate a lack of confidence in the performance of their duties to members. Cooper Energy is conscious that all consultation with First Nations people needs to be conducted in a culturally safe manner, and considers this is best achieved by demonstrating respect for their nominated representative bodies and governance processes.
Demonstration consultation is appropriate and adapted	NOPSEMA Guideline - <i>Consultation in the course of preparing an environment plan</i>	A titleholder will need to demonstrate to NOPSEMA that what it did constituted consultation appropriate and adapted to the nature of the interests of the relevant persons.	39. Cooper Energy sought direction on GMTTOAC's preferred method of consultation with GMTTOAC and its members (who are Gunditjmara), as relevant persons for the activity. This resulted in the Consultation Day meeting on 17 February 2024. GMTTOAC provided us prior notice of the values and sensitivities important to them; these are consistent with the since publicly available Gunditjmara Nyamat Mirring Plan 2023-2033. 40. Our presentation at Consultation Day was developed and delivered in a manner that acknowledged and discussed our activities and associated impacts and risks in relation to these particular values and sensitivities. 41. Our presentation included a Q&A session with members online and in person, which provided meaningful two-way dialogue. The presentation was provided electronically to GMTTOAC in a format requested by them, and we were also informed on the day that the consultation day was being recorded on video, to be provided to by GMTTOAC to members who may not have been able to attend the meeting. 42. Cooper Energy provided flexibility in making its staff available to meet when and where GMTTOAC preferred 43. The presentation day materials comprised images and photos to help describe current activities. No other advice has yet been received, and a publication (by) date has not been provided for a proposed GMTTOAC consultation plan.
Obligation to consult discharged	NOPSEMA Guideline - <i>Consultation in the course of preparing an environment plan</i>	The obligation to consult with relevant persons must be discharged prior to submitting an environment plan to NOPSEMA.	44. Given compliance with the regulations as shown above, and alignment with the Guidelines that were informed by case law, Cooper Energy considers the obligation to consult with GMTTOAC has been discharged.

11.2.6 Ongoing consultation – Cwth Regulation 22(15) and Vic Regulation 16(8)

Ongoing consultation is that which occurs following the final submission of the environment plan to NOPSEMA prior to acceptance and during the implementation phase. Ongoing consultation supports the following:

Implementation of commitments made during consultation such as:

- notifications of milestones as agreed;
- follow ups that may be agreed (e.g. commitments to data sharing); and
- consultation in preparation of emergency events that ensures emergency preparedness is maintained.

Consultation with newly identified relevant persons to:

- capture new comments or concerns;
- assess if significant new impacts or risks arise, or any opportunity for continuous improvement; and
- provide feedback on assessment of issues or concerns raised, and any resultant improvements made to the EP.

Consultation with existing relevant persons to:

- consider any changes to impacts or risks where that change might affect those relevant persons' functions, interest or activities;
- assess the merits of any objection or claim raised about those changes;
- respond to each objection or claim;
- incorporate any new measures to be adopted as a result of this consultation via MOC process outlined in this EP.

To support ongoing consultation, Cooper Energy will monitor for new relevant persons, and maintain a commitment register noting triggers for any agreed notifications or follow ups.

This consultation process has been developed considering the OPGGS(E)R, guidance and case law, and Cooper Energy company values. However, consultation is a “real world” activity in a dynamic environment and grey areas may appear. Where this occurs, we will manage the change in accordance with our MOC process considering the above. Where unresolved, the objects of the OPGGS(E)R and OPGGSR will further guide the MOC process.

12 References

12.1 Cooper Energy Documents

Document Number	Document Name
Cooper Energy Documents	
CMS-HS-POL-0001	Health, Safety and Environment Policy
CMS-RM-PRO-0001	Risk Management Protocol
CMS-EN-PCD-0001	Environmental Protocol
CMS-TS-PRO-0002	Management of Change (MoC) General Protocol
CMS-EN-PRO-0002	Invasive Marine Species Risk Management Protocol
CMS-ER-PRO-0001	Incident Investigation and Reporting Protocol
CMS-ER-PRO-0002	Crisis Management Protocol
CMS-HR-PCD-0004	Training and Development Procedure
CMS-EN-PCD-0004	Offshore Chemical Assessment Procedure
CMS-EN-PCD-0006	Offshore Victoria Whale Disturbance Risk Management Procedure
AGP-EN-EMP-0005	Athena Gas Plant Operations Environment Management Plan
VOB-EN-EMP-0003	Otway Onshore Operations Environmental Management Plan (PL251 and PL228)
CHN-DC-WMP-0001	Casino Henry Netherby Well Operations Management Plan
CHN-HS-SMP-0001	Casino Henry Netherby Safety Case
CHN-IR-IMP-0001	Integrity Management Plan Casino PL37(V), PL37 & PL42 Offshore Pipelines
COE-ER-ERP-0001	Incident Management Plan
VIC-ER-EMP-0001	Offshore Victoria Oil Pollution Emergency Plan
VIC-ER-EMP-0002	Offshore Victoria Operational and Scientific Monitoring Plan
COE-EN-EMP-0001	Description of the Environment

12.2 Guidance

Document Number	Document Name
NOPSEMA Guidance	
N-04300-GN0166	ALARP Guidance Note, June 2020
N04750-GN1344	Guidance Notes for EP Content Requirement September 2020
N-04750-GL1721	Guideline - Environment plan decision making June 2021
N-04750-IP1899	Reducing marine pest biosecurity risks through good practice management Information paper, October 2021
N-00500-PL1903	Section 572 Maintenance and removal of property Policy, November 2020
N-04750-GN1488	Oil Pollution Risk Management, Guidance Note, February 2021
A652993	Environment Bulletin – Oil Spill, April 2019
N-09000-GN1661	Vessels Subject to the Australian Offshore Petroleum Safety Legislation, Guidance Note, October, 2020
A705589	Consultation with Commonwealth agencies with responsibilities in the marine area, July 2020
Other Guidance	
APPEA	Australian Offshore Titleholders Source Control Guideline
Department of Agriculture, Water and the Environment	National Light Pollution Guidelines for Wildlife Including marine turtles, seabirds and migratory shorebirds
Department of Agriculture, Water and the Environment	EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species

Document Number	Document Name
Department of Agriculture, Water and the Environment	EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans
Department of Agriculture, Water and the Environment	National biofouling management guidelines for the petroleum production and exploration industry
Department of Agriculture, Water and the Environment	Anti-fouling and In-water Cleaning Guidelines
Department of Climate Change, Energy, the Environment and Water	Assessing and Managing Impacts to Underwater Cultural Heritage in Australian Waters. Guidelines on the application of the UCH Act 2018
Department of Climate Change, Energy, the Environment and Water	National Recovery Plan for the Southern Right Whale.
Department of the Environment and Energy	Threat Abatement Plan for the Impact of Marine Debris on Vertebrate Marine Life
Department of the Environment and Energy	National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna
GOMO 0611-1401	Guidelines for Offshore Marine Operations GOMO 0611-1401 (2013)
HB 203:2012	Environmental Risk Management – Principles and Process
IMO MEPC/Res.207(62)	Guidelines for the control and management of a ships' biofouling to minimise the transfer of invasive aquatic species
IOGP 464	Capping and Containment Global Industry Response Group Recommendations
IOGP 485	Standards and Guidelines for Well Integrity and Well Control
IOGP 516	Wildlife response preparedness
IOGP 533	Dispersants: Subsea Application
IOGP 592	Subsea Capping Response Time Model Toolkit User Guide
IOGP 594	Source Control Emergency Response Planning Guide for Subsea Wells
IOGP 595	Subsea Capping Stack Design and Operability Assessment
ISO 14001	Environmental Management Systems
ISO 31000	Risk management - Guidelines

12.3 Literature

ACCC 2022. ACCC Gas Inquiry 2017-2025 Interim Report (2022). Available at:

<https://www.accc.gov.au/publications/serial-publications/gas-inquiry-2017-2025/gas-inquiry-january-2022-interim-report>.

ACHRIS. 2023. [Aboriginal Cultural Heritage Register and Information System: Version 3.2.1](#). Victoria State Government. Aboriginal Victoria. Victorian Aboriginal Heritage Register, Melbourne. Accessed July 2023.

ACMI. 2010. Deen Maar: Past, Present and Future. Accessed 2024 <https://www.acmi.net.au/works/116955--deen-maar-past-present-future/>

AEMO 2022. Integrated System Plan – Roadmap for the National Electricity Market. Available at: <https://www.energy.gov.au/news-media/news/aemo-report-roadmap-net-zero>.

AEMO. 2021. Australian Energy Market Operator. Gas Statement of Opportunities for Eastern and South-Eastern Australia. March 2021. https://aemo.com.au/-/media/files/gas/national_planning_and_forecasting/gsoo/2021/2021-gas-statement-of-opportunities.pdf?la=en

AEMO. 2017. Gas Quality Guidelines. Available at: <https://www.aemo.com.au/-/media/Files/Gas/DWGM/2017/Gas-Quality-Guidelines-Version-10.pdf>

AIATSIS. 2020. AIATSIS Code of Ethics for Aboriginal and Torres Strait Islander Research. Australian Institute of Aboriginal and Torres Strait Islander Studies.

- ALA. 2024. Atlas of Living Australia occurrence records for Southern Right Whale at https://biocache.ala.org.au/occurrence/search?q=Isid%3Ahttps%3A%2F%2Fbiodiversity.org.au%2Fafd%2Ft%2F99e19958-7c6e-4f22-ad50-44027af1e418&qualityProfile=ALA&q=-_nest_parent_%3A*&fq=state%3A%22Victoria%22#tab_mapView. Accessed 2024.
- AMSA. 2020. NATPLAN. Australian Maritime Safety Authority. Canberra.
- AMSA. 2015a. Technical Guideline for the Preparation of Marine Pollution Contingency Plans for Marine and Coastal Facilities. Australian Maritime Safety Authority. Canberra.
- AMSA. 2015b. The effects of maritime oil spills on wildlife including non-avian marine life. A WWW database accessed at <http://www.amsa.gov.au/>.
- ANZECC and ARMCANZ. 2018. Australian and NZ Guidelines for Fresh and Marine Water Quality. Australian and NZ Environment and Conservation Council and Agriculture and Resource Management Council of Australia and NZ.
- APSC. 2023. Australian Government Style Manual, stylemanual.gov.au, accessed May 2024.
- Australia International Council on Monuments and Sites (ICOMOS) Burra Charter. 2013. The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013. Accessed in May 2024 at <https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>
- Australian Competition & Consumer Commission. 2022. Gas inquiry 2017-2025 Interim Report. Canberra.
- Australian Hydrographic Office 2021. Mariner's Handbook for Australian Waters Edition 5.0. Australian Hydrographic Office, Canberra.
- Backhouse, G., Jackson, J. and O'Connor, J. 2008. National Recovery Plan for the Australian Grayling *Prototroctes maraena*. DSE. Melbourne.
- Baker, C., Potter, A., Tran, M., Heap, A.D. 2008. Sedimentology and geomorphology of the northwest marine region: a spatial analysis (Geoscience Australia Record No. 2008/07). Geoscience Australia, Canberra.
- Balcazar, N.E., J.S. Tripovich, H. Klinck, S.L. Nieukirk, D.K. Mellinger, R.R. Dziak, and T.L. Rogers. 2015. "Calls reveal population structure of blue whales across the southeast Indian Ocean and the southwest Pacific Ocean." *Journal of Mammalogy* 6:1184-1193.
- Ball, D. and Blake, S. 2007. Shallow water habitat mapping at Victorian Marine National Parks and Marine Sanctuaries, Volume 1: Western Victoria. Parks Victoria Technical Series No.36. Parks Victoria, Melbourne.
- Bannister, J.L. 2001. Status of southern right whales (*Eubalaena australis*) off southern Australia. *Journal of Cetacean Research and Management Special Issue 2*: 103-110.
- Bannister, J.L., Kemper, C.M. and Warnecke R.M. 1996. The Action Plan for Australian Cetaceans. The Director of National Parks and Wildlife Biodiversity Group, Environment Australia. Canberra.
- Barton, J., Pope, A. and Howe, S. 2012. Marine protected areas of the Otway bioregion. Parks Victoria. Melbourne.
- Beach Energy. 2020. Environment Plan - Artisan-1 Exploration Well Drilling. Adelaide, Australia: Beach Energy
- Beach Energy. 2023. Environment Plan – Thylacine Installation and Commissioning. Available at: https://info.nopsema.gov.au/activities/503/show_public
- Bezore, R., Kennedy, D.M., and Ierodiaconou, D., 2016. The Drowned Apostles: The Longevity of Sea Stacks over Eustatic Cycles. In: Vila-Concejo, A.; Bruce, E.; Kennedy, D.M., and McCarroll, R.J. (eds.), *Proceedings of the 14th International Coastal Symposium* (Sydney, Australia). *Journal of Coastal Research Special Issue No. 75*:592-596.
- Biosis. 2023. Otway Exploration Cultural heritage desktop assessment prepared for ConocoPhillips Australia Pty Ltd by Biosis.
- Birdlife Australia. 2016. Species fact sheets. A WWW database accessed in 2016 at <http://birdlife.org.au/>.
- Birdlife Australia. 2017. Red-capped Plover. A WWW database accessed on 21st March 2017 at <http://www.birdlife.org.au/bird-profile/red-capped-plover>.

- Birdlife Australia. 2017b. Silver gull. A WWW database accessed on 21st March 2017 at <http://birdlife.org.au/bird-profile/Silver-Gull>.
- BirdLife International (2013b) IBAs factsheet: Port Fairy to Warrnambool. Downloaded from <http://www.birdlife.org> on 19/06/2013.
- Birdlife International. 2016. Species factsheets. A WWW database accessed in 2016 at <http://www.birdlife.org>.
- BP. 2013. Shah Deniz 2 Project. Environmental & Socio-Economic Impact Assessment. BP Development Pty Ltd
- Branch, T. A., Matsuoka, K. and Miyashita, T. 2004. Evidence for increases in Antarctic blue whales based on Bayesian modelling. *Marine Mammal Science* 20(4): 726-754.
- Branch, T.A., K.M. Stafford, D.M. Palacios, C. Allison, J.L. Bannister, C.L.K. Burton, E. Cabrera, *et al.* 2007. "Past and present distribution, densities and movements of blue whales *Balaenoptera musculus* in the Southern Hemisphere and northern Indian Ocean." *Mammal Review* 37(2), 116-175.
- Brown, P.B. and Wilson, R.I. 1984. Orange-bellied Parrot Recovery Plan. Department of Environment, Water, Heritage and Arts. Canberra.
- Brown, P.B. and Wilson, R.I. 1980. A Survey of the Orange-bellied Parrot *Neophema chrysogaster* in Tasmania, Victoria and South Australia. Tasmanian National Parks & Wildlife Service. Hobart.
- Bruce, B., Griffin, D., Bradford, R. 2007 – Laval Transport and Recruitment Processes of Southern Rock Lobster, FRDC 2002/007, Final Report, CSIRO Marine and Atmospheric Research.
- Brusati, E.D. and Grosholz, E.D. 2006. Native and introduced eco-system engineers produce contrasting effects on estuarine infaunal communities. *Biol Inv* 8:683–695.
- Builth, H. 2004. Mt Eccles Lava Flow and the Gunditjmarra Connection: A Landform for all Seasons. *Proceedings of the Royal Society of Victoria* 116(1):165-184
- Bunurong Land Council Aboriginal Corporation. 2024. Our Business. Bunurong Land Council Aboriginal Corporation.
- Bureau Veritas 2022. Certificate of Analysis Project 22PEBR0001409 Ref 3368.
- 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.
- Butler, A., Althaus, F., Furlani, D. and Ridgway, K. 2002. Assessment of the Conservation Values of the Boney Upwelling Area: A component of the Commonwealth Marine Conservation Assessment Program 2002-2004. Report to Environment Australia, CSIRO Marine Research. Hobart.
- Cai, W. and Cowan, T. 2006. SAM and regional rainfall in IPCC AR4 models: Can anthropogenic forcing account for southwest Western Australian winter rainfall reduction? *Geophysical Research Letters* 33. <https://doi.org/10.1029/2006GL028037>
- Campbell, R.A., N.J. Gales, G.M. Lento & C.S. Baker. 2008. Islands in the sea: extreme female natal site fidelity in the Australian sea lion, *Neophoca cinerea*. *Biology Letters*. 23:139-142.
- Chapman, C.C., Lea, M.A., Meyer, A., Sallée, J.B. and Hindell, M., 2020. Defining Southern Ocean fronts and their influence on biological and physical processes in a changing climate. *Nature Climate Change*, 10(3), pp.209-219.
- Charlton, C.M., Guggenheimer, S.N. and Burnell, S.R. 2014. Long term Southern Right Whale population monitoring at the Head of the Great Australian Bight, South Australia (1991-2013). Report to the Department of Environment, Australian Antarctic Division, Australian Marine Mammal Centre.
- Childerhouse, S., Double, M. and Gales, N. 2010. Satellite tracking of southern right whales (*Eubalaena australis*) at the Auckland Islands, NZ. Paper SC/62/BRG19 presented to the Scientific Committee of the International Whaling Commission, Agadir, Morocco.
- Church, John.A., Hunter, John.R., McInnes, K., White, Neil.J., 2006. Sea-level rise around the Australian coastline and the changing frequency of extreme events. *Australian Meteorological Magazine* 55, 253–260. <https://doi.org/10.1016/j.gloplach.2006.04.001>

- Clark, R.B. 1984. Impact of oil pollution on seabirds. *Environmental Pollution (Series A)* 33:1–22.
- Clark, I. 2007. The abode of malevolent spirits and creatures - Caves in Victorian Aboriginal social organization. Accessed 2024 <https://helictite.caves.org.au/pdf1/40.1.Clark.pdf>
- Coffey, 2008 – Seabed Habitat Report – VIC/P44 Stage 2 Gas Development, A Report for Santos, Report No: CR 1235_3_v1.
- Cogger, H.G., Cameron, E.E., Sadler, R.A., and Egger, P. 1993. The Action Plan for Australian Reptiles. Canberra. Australian Nature Conservation Agency.
- CoA. 2009. National Biofouling Management Guidance for the Petroleum Production and Exploration Industry.
- CoA [Commonwealth of Australia]. 2015. Conservation Management Plan for the Blue Whale - A Recovery Plan under the Environment Protection and Biodiversity Conservation Act 1999. Canberra, ACT: Commonwealth of Australia.
- CoA. 2017. Recovery Plan for Marine Turtles in Australia.
- CoA. 2017a. National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna.
- CoA. 2018. TAB for the impacts of Marine Debris on Vertebrate Wildlife of Australia's Coasts and Ocean.
- CoA. 2020. Australian Ballast Water Management Requirements. Version 8.
- CoastKit. 2022. CoastKit. State Government of Victoria, Department of Environment, Land, Water and Planning, Melbourne, accessed in 2022 at <https://mapshare.vic.gov.au/coastkit/>.
- Connell, S.C., M.W. Koessler, and C.R. McPherson. 2021. BMG Wells Plug and Abandonment Activities: Acoustic Modelling for Assessing Marine Fauna Sound Exposures. Document 02381, Version 1.0. Technical report by JASCO Applied Sciences for Cooper Energy.
- Connell, S.C., M.W. Koessler, A. M. Muellenmeister and C.R. McPherson. 2022. Cooper Energy Otway Subsea Noise Modelling: Acoustic Modelling for Assessing Marine Fauna Sound Exposures. Document 02764, Version 1.0. Technical report by JASCO Applied Sciences for Cooper Energy Limited.
- Cooke, J.G., Rowntree, V.J. and Payne, R. 2001. Estimates of demographic parameters for Southern Right Whales (*Eubalaena australis*) observed off Peninsula Valdes, Argentina. *J. Cetacean Res. Manage. Special Issue* 2:125-132.
- Cooper Energy. 2022. Sustainability Report 2022. Accessed from: <https://www.cooperenergy.com.au/Upload/View%20Download%20Cooper%20Energy's%20Sustainability%20Report.pdf>
- CoreLab. 2020. Compositional Analysis and PVT Report Well for Cooper Energy Limited Annie-1 RFL 201903231 FINAL REPORT. Core Laboratories Australia Pty Ltd Reservoir Fluids Group.
- Coyle, K.O., Pinchuk, A.I., Eisner, L.B. and Napp, J.M. 2008. Zooplankton species composition, abundance and biomass on the eastern Bering Sea shelf during summer: the potential role of water column stability and nutrients in structuring the zooplankton community. *Deep-Sea Res.*, 55:1755-1791.
- CSIRO, Bureau of Meteorology, 2017. Climate change in Australia - information for Australia's natural resource management regions. CSIRO, Canberra.
- CSIRO. 2020 State of the Climate 2020. Published by the commonwealth of Australia.
- Dai, A., 2013. Increasing drought under global warming in observations and models. *Nature climate change* 3, 52.
- Dalley, DD, McClatchie, S, (1989) – Functional feeding morphology of the euphausiid *Nyctiphanes australis*, *Marine Biology* 1010 1950293 (1989).
- Davis, J.E. and Anderson S.S. (1976) – Effects of oil pollution on breeding grey seals, *Marine Pollution Bulletin*, Volume 7, Issue 6, June 1976, Pages 115-118.
- Davis, H.K., Moffat, C.F. and Shepherd, N.J. 2002. Experimental Tainting of Marine Fish by Three Chemically Dispersed Petroleum Products, with Comparisons to the Braer Oil Spill. *Spill Science & Technology Bulletin*. 7(5–6): 257–278.

DAWE 2022, Australian biofouling management requirements (Version 1), Department of Agriculture, Water and the Environment, Canberra, May. CC BY 4.0.

DAWE. 2020a. Draft Conservation Advice for the Karst Springs and Associated Alkaline Fens of the Naracoorte Coastal Plain Bioregion. Department of Agriculture, Water and the Environment, <https://www.environment.gov.au/biodiversity/threatened/nominations/comment/karst-springs-alkaline-fens>.

DAWE. 2020b. Karst Springs and Associated Alkaline Fens of the Naracoorte Coastal Plain Bioregion Map. Department of Agriculture, Water and the Environment. <https://www.environment.gov.au/system/files/consultations/d9132abc-bcbc-43bf-a29c-48848b10e076/files/karst-springs-indicative-distribution-map.pdf>.

DAWE. 2020c. Conservation Advice for the Australian Sea Lion (*Neophoca cinerea*). Department of Agriculture, Water and the Environment. http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=22.

DAFF. 2020. Australian Ballast Water Management Requirements. Available at: <https://www.agriculture.gov.au/biosecurity-trade/aircraft-vessels-military/vessels/marine-pest-biosecurity/ballast/australian-ballast-water-management-requirements>

DAWE. 2021. Guidance on key terms within the Blue Whale Conservation Management Plan. Available at: <https://www.dcceew.gov.au/sites/default/files/documents/guidance-key-terms-blue-whale-conservation-management-plan-2021.pdf>

DAWE. 2022a. Species Profile and Threats (SPRAT) Database. A WWW database accessed in 2022 at http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=38. DAWE. Canberra

DAFF. 2022 Managing biofouling in Australia. Australian Government guidance pages. Accessed in 2022 at: <https://www.agriculture.gov.au/biosecurity-trade/aircraft-vessels-military/vessels/marine-pest-biosecurity/biofouling>

DCCEEW, 2021. Australia State of the Environment 2021. Assessed in 2022 at <https://soe.dcceew.gov.au>

DCCEEW. 2022a. National Recovery Plan for albatrosses and petrels (2022). Assessed in 2023 at <https://www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-albatrosses-and-petrels-2022.pdf>

DCCEEW. 2022b. State of the Environment report. Accessed in 2022 at <https://www.dcceew.gov.au/science-research/soe>

DCCEEW. 2022c. National Greenhouse Gas Inventory Quarterly Update: December 2021, Assessed in 2022 at <https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-gas-inventory-quarterly-update-december-2021>

DCCEEW. 2023. National Light Pollution Guidelines for Wildlife. Assessed in 2023 at <https://www.dcceew.gov.au/sites/default/files/documents/national-light-pollution-guidelines-wildlife.pdf>

DCCEEW. 2023a. Guidelines for working in the near and offshore environment to protect Underwater Cultural Heritage, Department of Climate Change, Energy, the Environment and Water, Canberra, October CC BY 4.0.

DCCEEW. 2023b. Safeguard Mechanism Reforms Position Paper. January 2023. Accessed in 2023 at: https://storage.googleapis.com/files-au-climate/climate-au/p/prj23cd662ff4387d8c254ae/public_assets/Safeguard%20Mechanism%20Reforms%20Position%20Paper.pdf

DCCEEW. 2024. National Recovery Plan for the Southern Right Whale. Commonwealth of Australia. Department of Climate Change, Energy, the Environment and Water, Canberra. Accessed in 2024 at www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-southern-right-whale.pdf

De Decker, P., Moros, M., Perner, K., Blanz, T., Wacker, L., Schneider, R., Barrows, T.T., O’Loingsigh, T. and Jansen, E. 2020. Climatic evolution in the Australian region over the last 94 ka - spanning human occupancy -, and unveiling the Last Glacial Maximum. *Quaternary Science Reviews*. 249.

DEECA. 2019. Electrofishing Technology – World first use in estuaries. Accessed in 2024 at: <https://www.ari.vic.gov.au/research/field-techniques-and-monitoring/electrofishing-technology>

Deleau, M.J.C., White, P.R., Peirson, G., Leighton, T.G, and Kemp, P.S. 2020. The response of anguilliform fish to underwater sound under an experimental setting. *River Research and Applications* 36 (3): 441 – 451.

DELWP. 2022. Victoria's Gas Substitution Roadmap. Available at:
<https://engage.vic.gov.au/download/document/27751>

DELWP. 2017. Submission on the EPBC Act assessment of the Salt-wedge Estuaries ecological community. Received 10 August 2017. Victorian Government.

DELWP. 2016. Shipwreck protected zones. A WWW database accessed in 2016 at
<http://www.dtpi.vic.gov.au/heritage/shipwrecks-and-maritime/shipwreck-protected-zones>. Department of Environment, Land, Water & Planning. Melbourne.

Dennis, T.E. & P.D. Shaughnessy (1996). Status of the Australian sea lion, *Neophoca cinerea*, in the Great Australian Bight. *Wildlife Research*. 23:741-754.

Dernie, K.M., M.J. Kaiser, and R.M. Warwick. 2003. "Recovery rates of benthic communities following physical disturbance." *Journal of Animal Ecology* 72, 1043-1056.

DEWHA. 2008. EPBC Act Policy Statement 2.1- Interaction between offshore seismic exploration and whales, Department of Environment, Water, Heritage & the Arts, Canberra.

DISER 2021. Australian Energy Market Update 2021. Available at:
<https://www.energy.gov.au/sites/default/files/Australian%20Energy%20Statistics%202021%20Energy%20Update%20Report.pdf>.

DoE. 2013. EPBC Act Policy Statement 1.1 – Significant Impact Guidelines – MNES. Department of the Environment. Canberra.

DoE. 2015. CMP for the Blue Whale (2015-2025) – A Recovery Plan under the Environment Protection and Biodiversity Conservation Act 1999. Department of the Environment. Canberra.

DoE, 2015b – South-east marine region profile. A description of the ecosystems, conservation values and uses of the South-east Marine Region, CoA, 2015.

DoEE 2019a. Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases [WWW Document]. URL <https://www.environment.gov.au/climate-change/climate-solutions-package>

DPIPWE. 2017. [Aboriginal Heritage of the Tasmanian Wilderness World Heritage Area \(TWWHA\): A literature review and synthesis report](#). Tasmanian Government. Department of Primary Industries, Parks, Water and Environment.

DSEWPaC. 2013a. Recovery Plan for the White Shark *Carcharodon carcharias*. Department of Sustainability, Environment, Water, Population and Communities. Canberra.

DSWEPaC. 2013b. Recovery Plan for the Australian Sea Lion (*Neophoca cinerea*). 2013. Department of Sustainability, Environment, Water, Population and Communities. Canberra.

DSEWPaC. 2012a. CMP for the Southern Right Whale. Department of Sustainability, Environment, Water, Population and Communities. Canberra.

DSEWPaC. 2012b. Giant Kelp Marine Forests of the South East Australia Ecological Community. Department of Sustainability, Environment, Water, Population and Communities. Canberra.

Duncan, A.J., Gavrilov, A.N., McCauley, R.D., Parnum, I.M. and Collis, J.M (2013). Characteristics of sound propagation in shallow water over an elastic seabed with a thin cap-rock layer. *J. Acoust. Soc. Am*:134, pp. 207-215.

Dunlop, M., Hilbert, D., Ferrier, S., House, A., Liedloff, A., Prober, S., Smyth, A., Martin, T., Harwood, T., Williams, K., Fletcher, C., Murphy, H., 2012. The Implications of Climate Change for Biodiversity, Conservation and the National Reserve System: Final Synthesis. CSIRO Climate Adaptation Flagship.
<https://doi.org/10.4225/08/5850384d796c6>

Duke NC, Kovacs JM, Griffiths AD, Preece L, Hill DJE, van Oosterzee P, Mackenzie J, Morning HS and Burrowa D (2017) Large-scale dieback of mangroves in Australia's Gulf of Carpentaria: a severe ecosystem response, coincidental with an unusually extreme weather event. *Marine and Freshwater Research*
<http://dx.doi.org/10.1071/MF16322>

Eastern Maar Aboriginal Corporation. 2014. Eastern Maar Meerreengeeye Ngakeppoorryeeyt. Eastern Maar Aboriginal Corporation. Native Title Services Victoria, National Landcare Programme, North Melbourne, Victoria.

EPA Victoria. 2022. Minamata Convention on Mercury. 16 February 2022. Accessed 11 January 2023 at <https://www.epa.vic.gov.au/for-business/find-a-topic/minamata-convention-on-mercury#minamata-convention-and-the-victorian-environment-protection-framework>

Erbe, C. Schoeman, R.P. Peel, D. Smith, J.N (2021) It Often Howls More than It Chugs: Wind versus Ship Noise Under Water in Australia's Maritime Regions. *Journal of Marine Science and Engineering*. <https://doi.org/10.3390/jmse9050472>

Ferreira, L.C., Jenner, C., Jenner, M. et al. 2024. Predicting suitable habitats for foraging and migration in Eastern Indian Ocean pygmy blue whales from satellite tracking data. *Mov Ecol* 12, 42. Available <https://movementecologyjournal.biomedcentral.com/articles/10.1186/s40462-024-00481-x> Accessed July 2024

Field, C.D. (1995) Impact of expected climate change on mangroves. *Hydrobiologia* 295, 75–81. <https://doi.org/10.1007/BF00029113>

Finneran, J.J., E. Henderson, D.S. Houser, K. Jenkins, S. Kotecki, and J. Mulsow. 2017. Criteria and Thresholds for U.S. Navy Acoustic and Explosive Effects Analysis (Phase III). Technical report by Space and Naval Warfare Systems Center Pacific (SSC Pacific). 183 p.

Framlingham Aboriginal Trust and Winda Mara Aboriginal Corporation. 2004. Kooyang Sea Country Plan. Accessed 2024 <https://parksaustralia.gov.au/marine/pub/scientific-publications/archive/kooyang-plan05.pdf>

Fraser, M.W., J. Short, G. Kendrick, D. McLean, J. Keesing, M. Byrne, M.J. Caley, *et al.* 2017. "Effects of dredging on critical ecological processes for marine invertebrates, seagrasses and macroalgae, and the potential for management with environmental windows using Western Australia as a case study." *Ecological Indicators* 78:229-242

French-McCay, D.P. 2009. State-of-the-art and research needs for oil spill impact assessment modelling. *Proceedings of the 32nd Arctic and Marine Oil Spill Program Technical Seminar*, Environment Canada, Ottawa, pp. 601-653.

French-McCay, D.P. 2003. Development and application of damage assessment modelling: example assessment for the North Cape oil spill. *Marine Pollution Bulletin* 47(9):9-12.

French-McCay, D.P. 2002. Development and application of an oil toxicity and exposure model, OilToxEx. *Environmental Toxicology and Chemistry* 21:2080-2094.

French, D. Schuttenberg, H. and Isaji, T, (1999) – Probabilities of oil exceeding thresholds of concern: examples from an evaluation for Florida Power and Light In: *Proceedings of the 22nd Arctic and Marine Oil Spill Program (AMOP), Technical Seminar*, June 1999, Alberta, Canada, 243-270pp

Fugro (2020). Survey Results Report. Otway Pipeline / Umbilical Route Survey. VOB-SV-REP-4900-0002.

Geraci, J.R. and St. Aubin, D.J. 1988. Synthesis of Effects of Oil on Marine Mammals. Report to US Department of the Interior, Minerals Management Service, Atlantic OCS Region, OCS Study. Ventura, California.

Gill, P.C., B., Pirzl, R., Morrice, M.G. and Lawton, K. 2015. Cetacean Diversity of the Continental Shelf and Slope off Southern Australia. *The Journal of Wildlife Management* 79(4):672–681.

Gill, P.C., Morrice, M.G., Page, B., Pirzl, R., Levings, A.H. and Coyne, M. 2011. Blue whale habitat selection and within-season distribution in a regional upwelling system off southkontapern Australia. *Marine Ecology Progress Series* 421: 243–263.

Gill, P.C., Kemper, C.M., Talbot, M. and Lyons, S.A. 2008. Large group of pygmy right whales seen in a shelf upwelling region off Victoria, Australia. *Marine Mammal Science* 24(4): 962-968.

Gill, P. and Morrice, M. 2003. Cetacean Observations. Blue Whale Compliance Aerial Surveys. Santos Ltd Seismic Survey Program Vic/P51 and P52. November-December 2002. Report to Santos Ltd.

Gill, P.C., Ross, G.J.B., Dawbin, W.H. and Wapstra, H. 2000. Confirmed sightings of dusky dolphins (*Lagenorhynchus obscurus*) in southern Australian waters. *Marine Mammal Science*. 16: 452-459.

Gilmour, J., Speed, C.W., Babcock, R., 2016. Coral reproduction in Western Australia. *PeerJ* 4, e2010.

<https://doi.org/10.7717/peerj.2010>

Gunditj Mirring Traditional Owners Aboriginal Corporation. 2023. Gunditjmara Nyamat Mirring Plan 2023 – 2033. Gunditj Mirring Traditional Owners Aboriginal Corporation, Gunditjmara Country.

Hermans, A., Winter, H.V., Gill, A. B. and Murk, A.J. 2024. Do electromagnetic fields from subsea power cables effect benthic elasmobranch behaviour? A risk-based approach for the Dutch Continental Shelf. *Environmental Pollution* 346: 1 April 2024.

Hewitt, C.L., Martin, R.B., Sliwa, C., McEnnulty, F.R., Murphy, N.E., Jones, T. and Cooper, S. (eds). 2002. National introduced marine pest information system. Available online <http://www.marinepests.gov.au/Pages/default.aspx> Accessed 04 May 2017

Hinwood, Jon & Potts, A.E. & Dennis, L.R. & Carey, Janet & Houridis, H. & Bell, R.J. & Thomson, J.R. & Boudreau, P. & Ayling, A.M. (1994). Environmental implications of offshore oil and gas development in Australia - Drilling activities.

Hoegh-Guldberg, O., 1999. Climate change, coral bleaching and the future of the world's coral reefs. *Marine and freshwater research* 50, 839–866.

Hoegh-Guldberg, O., Jacob, D., Taylor, M., Bindi, M., Brown, S., Camilloni, I., Diedhiou, A., Djalante, R., Ebi, K.L., Engelbrecht, F., Guiot, J., Hijioka, Y., Mehrotra, S., Payne, A., Seneviratne, S.I., Thomas, A., Warren, R., Zhou, G., (2018). Impacts of 1.5oC Global Warming on Natural and Human Systems, in: *Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*.

Holcombe, S.E. 2022, 'Cumulative impact assessment, Indigenous Peoples and the extractive sector: literature review and potential methods', in AB Fourie, M Tibbett and G Boggs (eds), *Mine Closure 2022: Proceedings of the 15th International Conference on Mine Closure*, Australian Centre for Geomechanics, Perth, pp. 157-172

Hook, S., Batley, G., Holloway, M., Irving, P. and Ross, A. 2016. *Oil Spill Monitoring Handbook*. CSIRO Publishing. Melbourne.

Huang, Z, and Hua X Wang. 2019. "Mapping the spatial and temporal variability of the upwelling systems of the Australian south-eastern coast using 14-year of MODIS data." *Remote Sensing of Environment* 90-109

Hughes, L., 2003. Climate change and Australia: Trends, projections and impacts. *Austral Ecology* 28, 423–443. <https://doi.org/10.1111/j.1442-9993.2003.tb00266.x>

Hughes, L. 2011 Climate change and Australia: key vulnerable regions. *Reg Environ Change* 11, 189–195. <https://doi.org/10.1007/s10113-010-0158-9>

Hughes TP, Kerry JT, Álvarez-Noriega M, Álvarez-Romero JG, Anderson KD, Baird AH, Babcock RC, Beger M, Bellwood DR, Berkelmans R, Bridge TC, Butler IR, Byrne M, Cantin NE, Comeau S, Connolly SR, Cumming GS, Dalton SJ, Diaz-Pulido G, Eakin CM, Figueira WF, Gilmour JP, Harrison HB, Heron SF, Hoey AS, Hobbs J-PA, Hoogenboom MO, Kennedy EV, C-y Kuo, Lough JM, Lowe RJ, Liu G, McCulloch MT, Malcolm HA, McWilliam MJ, Pandolfi JM, Pears RJ, Pratchett MS, Schoepf V, Simpson T, Skirving WJ, Sommer B, Torda G, Wachenfeld DR, Willis BL, Wilson SK. 2017. Global warming and recurrent mass bleaching of corals. *Nature* 543:373–377

Ierodiaconou, D., McLean, D., Birt, M.J., Bond, T., Wines, S., Glade-Wright, O., Morris, J., Higgs, D. and Whitmarsh. 2023. Industry remotely operated vehicle imagery for assessing marine communities associated with subsea oil and gas infrastructure on the continental shelf of South-East Australia. *Frontiers in Marine Science*. 10.

IMCRA Technical Group. 1998. *Interim Marine and Coastal Regionalisation for Australia: an ecosystem-based classification for marine and coastal environments*. Version 3.3. IMCRA Technical Group. Environment Australia, Commonwealth Department of the Environment. Australia.

International Association of Oil & Gas Producers. 2016. Report 543, Environmental fates and effects of ocean discharge of drill cuttings and associated drilling fluids from offshore oil and gas operations.

IPCC (2022) – IPCC WGII Sixth Assessment Report, Chapter 11 – Australia, https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FinalDraft_Chapter11.pdf

IPPC 2022b. IPCC Special Report Global Warming of 1.5°C. Summary for Policy Makers. Available at: <https://www.ipcc.ch/sr15/chapter/spm/>.

IPIECA (1994) - Report Series No 6: Biological Impacts of Oil Pollution: Saltmarshes. IPIECA

IPIECA. 1995. Biological Impacts of Oil Pollution: Rocky Shores. IPIECA. London.

IPIECA. 1999. Biological Impacts of Oil Pollution: Sedimentary Shores. IPIECA. London.

IPIECA. 2002. Guidelines on Biological Impacts of Oil Pollution. IPIECA. London.

IPIECA. 2014a. Mercury management in petroleum refining. IPIECA. London.

IPIECA. 2014b. Wildlife response preparedness. Report 516, International Association of Oil & Gas Producers.

IPIECA/OGP. 2015. Aerial Observations of Oil Spills at Sea. Good practice guidelines for incident management and emergency response personnel. Cedre. London.

ITOPF. 2011a. Effects of Oil Pollution on the Marine Environment. Technical Information Paper 13. The International Tanker Owners Pollution Federation Ltd (ITOPF) London. Available online at: <https://www.itopf.org>

ITOPF. 2011b. Aerial Observation of Marine Oil Spills. Technical Information Paper 1. The ITOPF London.

ITOPF. 2011c. Use of Booms in Oil Pollution Response. Technical Information Paper 3. The ITOPF London.

ITOPF. 2011d. Use of Skimmers in Oil Pollution Response. Technical Information Paper 5. ITOPF. London.

ITOPF. 2011e. Recognition of Oil on Shorelines. Technical Information Paper 6. The ITOPF London.

JASCO Applied Sciences 2015. Acoustic Characterisation of Subsea Choke Valve. Results from North West Shelf Measurements.

JASCO Applied Sciences 2023. Technical Memo. BMG Wells Plug and Abandonment Activities – Re-characterisation PSV and ROV Vessels. May 2023.

Jenssen, B.M. 1994. Effects of Oil Pollution, Chemically Treated Oil, and Cleaning on the Thermal Balance of Birds. *Environmental Pollution*, 86:207–215.

Koster, W.M., Aarestrup, K., Birnie-Gauvin, K. et al. First tracking of the oceanic spawning migrations of Australasian short-finned eels (*Anguilla australis*). *Sci Rep* 11, 22976 (2021). <https://doi.org/10.1038/s41598-021-02325-9>

Koster, W.M., Church, B., Crook, D., Dawson, D., Fanson, B., O'Connor, J. and Stuart, I. Factors influencing migration of short-finned eels (*Anguilla australis*) over 3 years from a wetland system, Lake Condah, south-east Australia, downstream to the sea. *Sci Rep*. 2021 Nov 26;11(1):22976. Accessed 2024 www.researchgate.net/publication/352677029_First_Tracking_of_the_Oceanic_Spawning_Migrations_of_Australasian_Short-Finned_Eels_Anguilla_Australis

Kukert, H. 1991. "In situ experiments on the response of deep sea macrofauna to burial disturbance." *Pacific Science* 45:95

Lewis, M. and Pryor, R. 2013. Toxicities of oils, dispersants and dispersed oils to algae and aquatic plants: Review and database value to resource sustainability. *Environmental Pollution* 180:345–367.

Malme, C.I., B Würsig, J.E Bird, and P.L. Tyack. 1986. Behavioral responses of gray whales to industrial noise: Feeding observations and predictive modelling. Document Number 56, NOAA Outer Continental Shelf Environmental Assessment Program, 393-600.

Malme, C.I., Miles P.R, Clark C.W., Tyack P., and Bird J.E. 1984. Investigations of the potential effects of underwater noise from petroleum industry activities on migrating gray whale behavior. Phase II: January 1984 Migration. No. 5586, Alaska: US. Department of the Interior Minerals Management Service.

Malme, C.I., Miles P.R., Clark C.W., Tyack P, and Bird J.E. 1983. Investigations of the potential effects of underwater noise from petroleum industry activities on migrating gray whale behavior. No. 5366, U.S. Minerals Manage.

McCauley, R.D., A.N. Gavrilov, C.D. Jolliffe, R. Ward, and P.C. Gill. 2018. "Pygmy blue and Antarctic blue whale presence, distribution and population parameters in southern Australia based on passive acoustics." *Deep-Sea Research Part II* 157–58:154-168.

- McCauley, R.D. and Duncan, A.J. 2001. Marine Acoustic Effects Study, Blue Whale Feeding Aggregations, Otway Basin, Bass Strait Victoria. Prepared for: Ecos Consulting. Curtin University Centre for Marine Science and Technology.
- McCauley, R D, J Fewtrell, A J Duncan, C Jenner, M N Jenner, J D Penrose, R Prince, A Adhitya, and J Murdoch. 2000. Marine seismic surveys: Analysis and propagation of air-gun signals; and effects of air-gun exposure on humpback whales, sea turtles, fishes and squid. Western Australia: Report Number R99-15. Prepared for Australian Petroleum Production Exploration Association by Centre for Marine Science and Technology.
- McCauley, R. D. 1994. Seismic Survey. In: Environmental Implications of Offshore Oil and Gas Developments in Australia – the Findings of an Independent Scientific Review. Swan J.M., Neff J.M. and Young P.C. (eds). Australian Petroleum Exploration Association, Sydney. Pp 19-121.
- McInnes, K., 2015. Wet Tropics Cluster Report, in: Ekström, M., Whetton, P., Gerbing, C., Grose, M., Webb, L., Risbey, J. (Eds.), Climate Change in Australia Projections for Australia's Natural Resource Management Regions: Cluster Reports. CSIRO and Bureau of Meteorology, Australia.
- McKenna, M, Ross, D, Wiggins, S and Hildebrand, J. 2011. "Underwater radiated noise from modern commercial ships" Acoustical Society of America, Pg 92-103. Available online: <https://www.cetus.ucsd.edu/docs/publications/McKennaJASA2012.pdf>
- McPherson, C, and M Koessler. 2021. Empirical estimation of underwater noise and effect from survey equipment. Memo, Capalaba, Queensland, Australia: JASCO Applied Sciences.
- Möller, Luciana, Catherine Attard, Kerstin Bilgmann, Virginia Andrews-Goff, Ian Jonsen, David Paton, and Michael Double. 2020. "Movements and behaviour of blue whales satellite tagged in an Australian upwelling system." *Sci Rep* 3;10(1):21165. doi:10.1038/s41598-020-78143-2.
- Neff, J. Fate and Effects of Water Based Drilling Muds and cuttings in cold water environments. A scientific review. Prepared for Shell E&P Company.
- NIAA. 2024. Deen Maar IPA. Accessed 2024 <https://www.niaa.gov.au/our-work/environment-and-land/indigenous-land-and-sea-management-projects/deen-maar-ipa>
- NMFS. 2018. 2018 Revision to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. National Marine Fisheries Service (US).
- NMFS. 2001. Biological Opinion on the Endangered Species Act 1973 - Section 7 Consultation relating to the minerals management Service's (MMS) proposed approval of a development and production plan for the construction and operation of the Liberty project in the Beaufort Sea, Alaska. Consultation No. F/AKR/2001/00889. National Marine Fisheries Service, Alaska region, Office of protected resources. pp. 1-51.
- NOAA. 2002. Environmental Sensitivity Index Guidelines. Version 3. March 2002. National Oceanic and Atmospheric Administration (NOAA). Washington.
- NOAA. 2013. Deepwater Horizon Oil Spill: Assessment of Potential Impacts on the Deep Soft-bottom Benthos. Interim data summary report. NOAA Technical Memorandum NOS NCCOS 166. NOAA. Washington.
- NOAA, 2017- Automated Data Inquiry for Oil Spills (ADIOS) available at <http://response.restoration.noaa.gov/adios>.
- NOAA. 2018. Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Marine Site Characterization Surveys off of Delaware. Federal Register 83(110): 26416-26432, National Oceanic and Atmospheric Administration.
- NOAA 2019. ESA Section 7 Consultation Tools for Marine Mammals on the West Coast. National Oceanic and Atmospheric Administration (US). Accessed May 2022. <https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/esa-section-7-consultation-tools-marine-mammals-west>.
- Noad, M., E. Kniest, and R. Dunlop. 2019. "Boom to bust? Implications for the continued rapid growth of the eastern Australian humpback whale population despite recovery." *Population Ecology* 61(2), 198-209.
- Noad, M.J., Dunlop, R.A., Paton, D. and Kniest, H. 2011. Abundance estimates of the east Australian humpback whale population: 2010 survey and update. IWC Report SC/63/SH22.

- NOPSEMA. 2022. Environment Plan Decision Making Guideline: N-04750-GL1721 A524696. December 2022. Accessed 22.11.23.
<https://www.nopsema.gov.au/sites/default/files/documents/Environment%20plan%20decision%20making%20guideline.pdf>
- NOPSEMA. 2024. Environment plan content requirement: N-04750-GN1344 A339814. January 2024. Accessed May 2024.
<https://www.nopsema.gov.au/sites/default/files/documents/Environment%20Plan%20Content%20Requirements%20Guidance%20Note.pdf>
- NRC. 2003. Oil in the sea III. Inputs, Fates and Effects. The National Academies Press. Washington, D.C.
- National Resource Damage Assessment (NRDA). 2012. April 2012 Status Update for the Deepwater Horizon Oil Spill. A WWW publication accessed at: <http://www.gulfspillrestoration.noaa.gov>. Natural Resource Damage Assessment
- Owen, K, C.S Jenner, and MN.N Jenner. 2016. "A week in the life of a pygmy blue whale: migratory dive depth overlaps with large vessel drafts." *Animal Biotelemetry* 4, 17.
- Parks Victoria. 2019. Aboriginal Heritage Identification Guide. Parks Victoria Available from https://soln.org/cb_pages/files/Aboriginal%20Heritage%20Identification%20Guide%20.pdf. Accessed 29.06.23.
- Patil, J., Gunasekera, R., McEnnulty, F. and Bax, N. 2004. Development of genetic probes for rapid assessment of the impacts of marine invasive species on native biodiversity – *Maoricolpus roseus*. CSIRO. Hobart.
- Paulay, G. Kirkendale, L. Lambert, G. and Meyer, C. 2002. Anthropogenic biotic interchange in a coral reef ecosystem: A case study from Guam. *Pacific Science* 56(4): 403–422.
- Pineda, M.C., A. Duckworth, and N. Webster. 2016. "Appearance matters: sedimentation effects on different sponge morphologies." *Journal of the Marine Biological Association of the United Kingdom* 96, 481-492.
- Popper, A.N., A.D. Hawkins, R.R. Fay, D. Mann, S. Bartol, T. Carlson, S. Coombs, *et al.* 2014. Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report. ASA S3/SC1.4 TR-201.4. Prepared by ANSI Accredited Standards Committee Rationale and Background Information (Chapter 8).
- Poroch, N., Arabena, K., Tongs, J., Larkin, S., Fisher, J. & Henderson, G. 2009, Spirituality and Aboriginal People's Social and Emotional Wellbeing: A Review, Discussion Paper No. 11, Cooperative Research Centre for Aboriginal Health, Darwin.
- Richardson W.J., Greene Jnr. C.R., Malme C.I. and Thomson D.H., 1995. *Marine Mammals and Noise*. Academic Press, California.
- Richardson, W.J. and Malme, C.I. 1993. 'Man-made noise and behavioural responses.' In: *The Bowhead Whales Book*, Special publication of The Society for Marine Mammology 2. Edited by D. Wartzok and K.S. Lawrence. The Society for Marine Mammology, pp. 631-700.
- Roberts, D., A. Davis, and S. Cummins. 2006. "Experimental manipulation of shade, silt, nutrients and salinity on the temperate reef sponge *Cymbastela concentrica*." *Marine Ecology Progress Series* 307:143-154.
- RPS-APASA (2014). *Reindeer – Devil Creek, Quantitative Oil Spill Risk Assessment*. Revision 0, 24 February 2014. Report prepared for Apache Energy Ltd.
- RPS. 2019a. *Annie-1 Oil Spill Modelling*. RPS AUSTRALIA WEST PTY LTD, Bundall, QLD Australia.
- RPS. 2022. *Annie-2 Oil Spill Modelling*. RPS AUSTRALIA WEST PTY LTD, Bundall, QLD Australia.
- Santos. 2004. *Casino Gas Field Development Environment Report*. Prepared by Enesar Consulting Pty Ltd. Hawthorn East, Victoria, for Santos Ltd, Adelaide.
- SETFIA. 2020. *Commercial fishing catch and value in the Cooper Energy permit areas, Otway Basin, Offshore Victoria*.
- Shigenaka, G. 2003. *Oil and Sea Turtles: Biology, Planning, and Response*. National Oceanographic and Atmospheric Administration, United States of America.

Smit, M.G.D., Bechmann, R.K., Hendriks, A.J., Skadsheim, A., Larsen, B.K., Baussant, T., Bamber, S. and Sanni, S. 2009. Relating biomarkers to whole-organism effects using species sensitivity distributions: A pilot study for marine species exposed to oil. *Environmental Toxicology and Chemistry* 28(5):1104-1109.

Spalding, M.D., Brown, B.E., 2015. Warm-water coral reefs and climate change. *Science* 350, 769–771.

Solomon, S., Qin, D., Manning, M., Chen, Z., Marquis, M., Averyt, K.B., Tignor, M., Miller, H.L., 2007. Contribution of working group I to the fourth assessment report of the intergovernmental panel on climate change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Southall, B. L., Finneran, J. J., Reichmuth, C., Nachtigall, P. E., Ketten, D. R., Bowles, A. E., & Tyack, P. L. 2019. Marine mammal noise exposure criteria: Updated scientific recommendations for residual hearing effects. *Aquatic Mammals*, 45(2): 125-232.

Southall, B L, A E Bowles, W T Ellison, J Finneran, R L Gentry, C R Green Jr, D Kastak, D R Ketten, and J H Miller. 2007. "Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations." *Aquatic Mammals*, 33(4): 411-521.

Southall, B L, A R Scholik-Schlomer, A R Leila Hatch, T Bergmann, M Jasny, K Metcalf, L Weilgart, and A J Wright. 2017. "Underwater Noise from Large Commercial Ships—International Collaboration for Noise Reduction" Accessed 2024. https://www.researchgate.net/figure/Ocean-ambient-noise-for-frequencies-between-10-Hz-and-100-kHz-This-figure-shows-typical_fig1_314277631

State of Victoria (Department of Transport). 2021. State Maritime Emergencies (non-search and rescue) Subplan. Edition 2, Melbourne: State of Victoria. Accessed 2022. <https://files.emv.vic.gov.au/2021-10/SEMP%20Maritime%20Emergencies%20%28Non-search%20and%20Rescue%29%20Sub-Plan.pdf>.

Stephenson, L.H. 1991. Orange-bellied Parrot Recovery Plan: Management Phase. Tasmanian Department of Parks, Wildlife & Heritage. Hobart.

SWIFFT. 2022. Southern Right Whale research and monitoring project. State Wide Integrated Flora and Fauna Teams. Available from: https://www.swiff.net.au/cb_pages/team_southern_right_whale_south_eastern_australia_monitoring.php

The University of Adelaide. 2023. Sea Country. Available from

<https://storymaps.arcgis.com/stories/4a5c0beda383452889d5c0b37bf9d539>. Accessed 29.06.23

Threatened Species Scientific Committee (TSSC) (2011) - Commonwealth Conservation Advice on *Sternula neris* (Fairy Tern). A www publication available at <http://www.environment.gov.au/biodiversity/threatened/species/pubs/82950-conservation-advice.pdf>

TSSC. 2012. Commonwealth Conservation Advice on Giant Kelp Marine Forests of South East Australia. Department of Sustainability, Environment, Water, Population and Communities. Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/107-conservation-advice.pdf>. In effect under the EPBC Act from 29-Aug-2012

TSSC. 2013. Commonwealth Conservation Advice for Subtropical and Temperate Coastal Saltmarsh. Canberra: Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/118-conservation-advice.pdf>. In effect under the EPBC Act from 10-Aug-2013

TSSC. 2013. Conservation advice for Subtropical and Temperate Coastal Saltmarsh. Threatened Species Conservation Committee (TSSC)

TSSC (2014) – Approved Conservation Advice for *Thinornis rubicollis* (Hooded plover). A www publication available at <http://www.environment.gov.au/biodiversity/threatened/species/pubs/66726-conservation-advice.pdf>

TSSC. 2015a. Conservation Advice *Megaptera novaeangliae* humpback whale. TSSC.

TSSC, 2015b Conservation Advice *Balaenoptera borealis* sei whale. TSSC.

TSSC, 2015c Conservation Advice *Balaenoptera physalus* fin whale. TSSC.

TSSC (2015d) - Commonwealth Conservation Advice on *Halobaena caerulea* (Blue Petrel). A www publication available at <http://www.environment.gov.au/biodiversity/threatened/species/pubs/1059-conservation-advice-01102015.pdf>

TSSC (2015e) - Commonwealth Conservation Advice on *Calidris ferruginea* (Curlew sandpiper). A www publication available at <http://www.environment.gov.au/biodiversity/threatened/species/pubs/856-conservation-advice.pdf>

TSSC (2016) Conservation Advice *Calidris canutus* red knot. A www publication available at <http://www.environment.gov.au/biodiversity/threatened/species/pubs/855-conservation-advice-05052016.pdf>

TSSC (2016b) Conservation Advice *Charadrius mongolus* Lesser Sand Plover. A www publication available at <http://www.environment.gov.au/biodiversity/threatened/species/pubs/879-conservation-advice-05052016.pdf>

UNEP. 2012. Basel Convention Technical Guidelines: Technical guidelines for the environmentally sound management of wastes consisting of elemental mercury and wastes containing or contaminated with mercury. Secretariat of the Basel Convention. July 2012.

UNFCCC. (2020). The Paris Agreement. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

Vic First Peoples Relations. 2023. Fact Sheet: Aboriginal coastal shell middens. Assessed in 2023 at <https://www.firstpeoplesrelations.vic.gov.au/fact-sheet-aboriginal-coastal-shell-middens>.

Victorian Aboriginal Heritage Council. 2021. Strategic Plan 2021 – 2026. State Government of Victoria, Victorian Aboriginal Heritage Council, Melbourne.

Victorian Department of Planning and Community Development (2008). Aboriginal cultural heritage mini-poster series. Melbourne: Victorian Department of Planning and Community Development. Accessed in 2023 at https://healthinonet.ecu.edu.au/key-resources/resources/20327/?title=Aboriginal+cultural+heritage+mini+poster+series&contenttypeid=1&contentid=20327_1

Victorian Fisheries Authority. 2022. Victoria's top fishing destinations – west coast - where to fish – Portland. Accessed in 2024 at: <https://vfa.vic.gov.au/recreational-fishing/victorias-top-fishing-destinations/west-coast/where-to-fish-west-coast/portland>

Volkman, J.K., Miller, G.J., Revill, A.T. and Connell, D.W. 1994. 'Oil spills.' In Environmental Implications of offshore oil and gas development in Australia - the findings of an independent scientific review. Edited by Swan, J.M., Neff, J.M. and Young, P.C. Australian Petroleum Exploration Association. Sydney.

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

Watson M, Stamation K, Charlton C. 2021. Calving rates, long-range movements and site fidelity of southern right whales (*Eubalaena australis*) in south-eastern Australia. Accessed 16.11.23 at: https://www.researchgate.net/publication/352912498_Calving_rates_long-range_movements_and_site_fidelity_of_southern_right_whales_Eubalaena_australis_in_south-eastern_Australia/link/6390e29a11e9f00cda273ba6/download

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.

Woodside. 2003. Otway Gas Project Environmental Impact Statement/Environment Effects Statement (EIS/EES). Prepared by Woodside Energy Ltd. Perth.

Woodside. 2008. Browse LNG Development. Torosa South-1 Pilot Appraisal Well Environment Plan. Woodside Energy Ltd. Perth.

Woodside, 2011 – Browse LNG Development, Draft Upstream Environmental Impact Assessment, EPBC Referral 2008/4111, November 2011.

Yaghmour F., Els J., Maio E., Whittington-Jones B., Samara F., El Sayed Y., Ploeg R., Alzaabi A., Philip S., Budd J., Mupandawana M. 2022. Oil spill causes mass mortality of sea snakes in the Gulf of Oman. Science of The Total Environment, Volume 825. Accessed on May 2022 at: <https://doi.org/10.1016/j.scitotenv.2022.154072>.