Decision on marine consent and marine discharge consent

OMV Taranaki Limited
(NZBN 9429040947921)
EEZ200011
MAY 2020
Pursuant to section 62(1)(a) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, the application for marine consent by OMV Taranaki Ltd (NZBN 9429040947921) to undertake restricted discretionary activities (listed in Schedule 1) in the Taranaki Bight for a 10 well Exploration and Appraisal Drilling programme is GRANTED subject to conditions (set out in Schedule 2).

The marine consent expires on 5 June 2050.

Dated: 8 May 2020

Jennifer Vernon
DMC Chair

Gerda Kuschel
EPA Board Member

R J (George) Hooper
DMC Member
SCHEDULE 1: OMV TARANAKI LIMITED MARINE CONSENT EEZ200011-1 AUTHORISED RESTRICTED ACTIVITIES

This marine consent authorises the following restricted activity, subject to conditions listed in Schedule 2.

Section 20(2)(a) – the construction, placement, alteration, extension, removal, or demolition of a structure on or under the seabed

The construction, placement, alteration and removal of temporary structures associated with:

- Pre-installation works (including seabed surveys and site clearance);
- Installation of a Mobile Offshore Drilling Unit (MODU);
- Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);
- Installation of well casing;
- Remote Operated Vehicles (ROV) works and placement of transponders;
- Well abandonment;
- Environmental monitoring;
- Removal of a MODU; and
- Contingent activities (including pilot hole drilling, re-spudding, and cement disposal).

Section 20(2)(d) – the removal of non-living natural material from the seabed or subsoil

The removal of non-living material from the seabed and subsoil associated with:

- Pre-installation works (including seabed surveys and site clearance);
- Drilling (including drilling and side-track drilling);
- Formation evaluation (including Wireline Formation Testing (WFT) and Drill Stem Testing (DST));
- Environmental monitoring; and
- Contingent activities (including pilot hole drilling and re-spudding).

Section 20(2)(e) – the disturbance of the seabed or subsoil in a manner that is likely to have an adverse effect on the seabed or subsoil

The disturbance of the seabed or subsoil associated with:

- Pre-installation works (including seabed surveys and site clearance);
- Installation of a MODU;
- Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);
- Installation of well casing;
- Deposition of drill cuttings and attached drilling fluids;
- ROV works and placement of transponders;
- Formation evaluation (including WFT and DST);
- Well abandonment;
- Removal of a MODU;
- Environmental monitoring; and
- Contingent activities (including pilot hole drilling, re-spudding, and cement disposal).
Section 20(2)(f) – the deposit of anything or organism in, on, or under the seabed

The deposition in, on or under the seabed of:

a) Pre-installation works (including seabed surveys and site clearance);

b) Installation of a MODU;

c) Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);

d) Installation of well casing;

e) Deposition of drill cuttings and attached drilling fluids;

f) ROV works and placement of transponders;

g) Well abandonment;

h) Removal of a MODU;

i) Environmental monitoring; and

j) Contingent activities (including pilot hole drilling, re-spudding, and cement disposal).

Section 20(2)(g) – the destruction, damage, or disturbance of the seabed or subsoil in a manner that is likely to have an adverse effect on marine species or their habitat

Activities associated with:

a) Pre-installation works (including seabed surveys and site clearance);

b) Installation of a MODU;

c) Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);

d) Installation of well casing;

e) Deposition of drill cuttings and attached drilling fluids;

f) ROV works and placement of transponders;

g) Well abandonment;

h) Removal of a MODU;

i) Environmental monitoring; and

j) Contingent activities (including pilot hole drilling, re-spudding, and deposition of cement).

Section 20(4)(a) – the construction, mooring or anchoring long-term, placement, alteration, extension, removal, or demolition of a structure or part of a structure

The construction, mooring and anchoring long-term, placement, alteration and removal of structures or part of a structure associated with:

a) Installation of a MODU;

b) Installation of well casing;

c) ROV works and placement of transponders;

d) Well abandonment;

e) Removal of a MODU;

f) Environmental monitoring; and

g) Contingent activities (including pilot hole drilling, re-spudding, and deposition of cement).
Section 20(4)(b) – the causing of vibrations (other than vibrations caused by the normal operation of a ship) in a manner that is likely to have an adverse effect on marine life

The causing of vibrations associated with:

a) Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);
b) Formation evaluation (including WFT and DST);
c) Well abandonment – cutting of drill casing; and
d) Contingent activities (including pilot hole drilling and re-spudding).

Section 20(4)(c) – the causing of an explosion

The causing of an explosion associated with:

a) Contingent activities (including use of explosives).
DEFINITIONS

Terms used in this Schedule of Conditions shall have the following meanings:

**AOI**  
Area of Interest

**CAG**  
Community Advisory Group

**Consent holder**  
Has the meaning given in section 4 of the EEZ Act

**Cuttings**  
Sediments, rock and other materials removed from the well during drilling.

**Drilling campaign**  
Drilling of one or several wells undertaken by a single MODU under this marine consent.

**Drilling fluids**  
Mixtures of bulk water, sea water, or base oil, minerals and other products, (collectively also known as ‘drilling mud’). Drilling fluids may include water-based muds or synthetic-based muds.

**EAD**  
Exploration and Appraisal Drilling.

**EEZ Act**  
Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, as amended from time to time.

**EMP**  
Environmental Monitoring Plan.

**Environmental incident**  
A notifiable incident declared under regulation 70 of the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016.

**EPA**  
The Environmental Protection Authority or any equivalent Authority having an equivalent role under the EEZ Act. Where any condition requires notification, reports, or any other material to be provided to the EPA or where a plan is required to be submitted to the EPA ‘for certification’ this shall be addressed to the EPA’s “General Manager – Climate, Land & Oceans” in the first instance.

**Existing interest**  
Has the same meaning given in section 4 of the EEZ Act.

**Impact Assessment**  

**MIRP**  
MODU Installation and Removal Plan.
CONDITIONS

1. Subject to compliance with these consent conditions, the activities authorised by this marine consent shall be undertaken in accordance with the following documents:

   (a) The application document entitled “Marine Consent and Marine Discharge Consent Application – Māui Field – Exploration and Appraisal Drilling Programme” (dated October 2019, updated December 2019) prepared by SLR Consulting NZ Limited; and

   (b) The further information provided by OMV Taranaki Limited (OTL) on 17 January 2020 and 21 February 2020.

   Where there is any actual or apparent conflict between these documents, and any of the conditions of this marine consent, the conditions of this marine consent shall prevail.

2. This marine consent shall expire on 5 June 2050.

3. Pursuant to section 85 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act), this marine consent shall lapse on 1 August 2029 unless the marine consent is given effect to prior to that date or the EPA grants an extension to the date in accordance with section 85(1)(b) of the EEZ Act.
4. The consent holder shall ensure that a copy of this marine consent, and any variations of it, is available for inspection by the EPA at the consent holder’s head office in New Zealand and on any Mobile Offshore Drilling Unit (MODU) undertaking activities authorised by this marine consent.

5. The consent holder shall ensure that all personnel, including any contractors, involved in undertaking any of the activities authorised by this marine consent are fully informed with respect to these conditions and their duty to comply with this marine consent.

6. The consent holder shall keep a record which must show that the personnel, including contractors, referred to in Condition 5 have been informed of their obligations under this marine consent. The consent holder shall provide a copy of this record to the EPA upon request.

7. The consent holder shall, at least 20 working days prior to first commencing the activities authorised by this consent or any other timeframe agreed to by the EPA, provide to the EPA, in writing, the name and contact details of the person who has responsibility for compliance management, collating information, and reporting in accordance with the requirements of this marine consent. If the responsible person(s) changes, the consent holder shall advise the EPA, in writing, of the name and contact details of the new person(s) within ten (10) working days of the change.

8. The consent holder shall:

   (a) Prior to any activities authorised by this marine consent, submit an Environmental Monitoring Plan (EMP) to the EPA. The purpose of the EMP is to assess the environmental effects from the Māui Exploration and Appraisal Drilling (EAD) Programme relating to the placement of structures on the seabed and the deposition of drill cuttings and includes pre and post-drill monitoring activities to determine the adverse effects of the consented activity on the existing environment and existing interests. The EMP, and any subsequent changes to the EMP, shall:

   i. Be prepared by a suitably qualified and experienced person(s);


   iii. Be developed in consultation with the Community Advisory Group (CAG) Forum required to be set up in accordance with Condition 17; and

   iv. Utilise an environmental monitoring methodology which seeks to ensure that any effects on monitoring on marine mammals, fish, and benthic communities are minimised.

   (b) Ensure, as a minimum, that the EMP includes:

   i. Identification of whether any sensitive environments may be affected by the proposed activities;

   ii. Identification of measures to ensure that proposed activities do not result in effects beyond the nature and scale described in the Impact Assessment;

   iii. Observations and measurements of any effects of proposed activities on the benthic environment;
iv. The proposed location, frequency and duration of sampling, including prior to and after each MODU installation;

v. The parameters proposed to be monitored;

vi. The proposed sampling methodology; and

vii. Reporting requirements and frequencies.

9. The EPA shall certify that the EMP, provided in accordance with Condition 8, meets the above requirements. In respect of the EMP certification, the following shall apply:

(a) If, within 20 working days of the consent holder providing the EMP to the EPA, and the EPA has not certified the EMP, or advised the consent holder that it has not yet been certified, it shall be deemed to have been so certified;

(b) The EPA may engage a suitably qualified and experienced person(s) to review the EMP before deciding whether to certify the EMP;

(c) The EPA may only refuse to certify the EMP if it fails to meet the requirements of Condition 8. The EPA shall provide its reasons for refusing to certify the EMP in writing; and

(d) Should the EPA refuse to certify the EMP, the consent holder shall submit a revised version of the EMP to the EPA for certification. Sub-clauses (a) to (c) of this condition shall apply to any revised EMP.

Advice Notes:

a) The EPA may request further information/clarification from the consent holder after it submits the EMP for certification, and this condition also enables the EPA to seek the advice of external experts as part of its certification process. In both such cases, the EPA will advise the consent holder that it has not yet certified the EMP and the timeframe in clause a) (the “deemed to have been so certified”) will not apply.

b) Because the EMP may need to be amended by the consent holder and resubmitted before the EPA certifies it, the consent holder should provide adequate time in its works programme and submit the EMP well in advance of the proposed MODU installation date.

c) All actual and reasonable costs incurred in the certification of plans will be recovered by the EPA in accordance with section 143 of the EEZ Act, and the EPA EEZ Cost Recovery Policy.

10. The consent holder shall operate in accordance with the certified EMP required by Condition 8.

11. The consent holder shall ensure that each well drilled under this marine consent shall be permanently plugged and abandoned as soon as reasonably practicable after drilling is complete. Any well casing must be cut so that it does not protrude above the seabed. The consent holder shall provide confirmation of compliance with this condition to the EPA within 20 working days of the abandonment of each well.

12. The consent holder shall ensure that all structures associated with the activities authorised by this marine consent that are placed on the seabed are removed as soon as practicable once well abandonment is complete. To ensure that removal is effective, a Remote Operated Vehicle (ROV)
survey shall be undertaken once well abandonment is complete, and the results included in the Compliance Report required by Condition 33 of this marine consent.

13. The consent holder shall, prior to undertaking the activities authorised by this marine consent, provide the EPA with a copy of the acknowledgement by Maritime New Zealand of its acceptance of the consent holder's Oil Spill Contingency Plan.

14. The consent holder shall:

(a) Notify the EPA, as soon as practicable of the occurrence of an environmental incident; and
(b) Provide to the EPA a copy of any detailed written report, as required by regulation 71(5) of the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016, relating to any environmental incident which the EPA is notified of in accordance with Condition 14(a) of this marine consent.

15. The consent holder shall notify the EPA immediately upon becoming aware of any adverse effects on the environment or existing interests that:

(a) Were not anticipated when this marine consent was granted;
(b) Are of a scale or intensity that were not anticipated when this marine consent was granted; or
(c) Arise in the event of a harmful substances spill to sea.

Advice Note:
If such adverse effects occur, the EPA may, pursuant to section 76(1)(c) of the EEZ Act, serve notice on the consent holder of its intention to review the duration or conditions of this marine consent.

16. The consent holder shall:

(a) Provide, at least quarterly during drilling operations, all persons with existing interests identified in the Impact Assessment with up-to-date information on the activities being undertaken that are authorised by this marine consent, including the scheduling and location of the MODU anticipated for the EAD Programme, and environmental monitoring undertaken in accordance with the conditions of this marine consent; and
(b) Make this information available through standard communications channel(s). Evidence of this communication shall be provided to the EPA upon request.

17. The consent holder shall, at least quarterly during drilling operations, convene a meeting termed “Community Advisory Group” (CAG), to which a representative from each of the iwi and hapū listed in Section 5.3.1 of the Impact Assessment is invited.

(a) The objective of the CAG is to facilitate ongoing engagement between the consent holder, each iwi and hapū in relation to the activities authorised by this marine consent.
(b) The CAG meetings shall commence at least six months prior to the installation of the MODU for the first well in any drilling campaign related to this marine consent, and shall cease within
three months of the last post-drilling survey of the last well drilled in the same drilling campaign related to this marine consent.

(c) The purposes of these meetings shall include, but not be limited to, the following:

i. To provide each iwi and hapū with information about the EAD programme, including:

1. The proposed timing of upcoming activities;

2. Up-to-date information on the activities being undertaken that are authorised by this marine consent; and

3. Monitoring results.

ii. To provide a forum for each iwi and hapū to ask questions and provide feedback to the consent holder on any issue related to the EAD programme, including during the preparation of the Well-Specific Monitoring Programme(s) (WSMP) required by Condition 29;

iii. To promote shared understandings between each iwi and hapū and the consent holder of their respective cultural, environmental, social, and economic objectives, in the context of the activities authorised by this marine consent; and

iv. To provide a forum to discuss matters which impact cultural values and interests before and during the EAD programme.

Advice Note:

Iwi and hapū listed in Condition 17 can be updated on approval from the EPA, after consultation with the consent holder, iwi, hapū and other parties with existing interests.

18. The consent holder shall provide a MODU Installation and Removal Plan (MIRP) to the EPA at least 20 working days prior to the installation of any MODU authorised by this marine consent for all wells in any drilling campaign or as agreed by the EPA. The purpose of the MIRP is to provide information on the installation and removal of any MODU and any associated environmental effects or risks. Each MIRP shall, as a minimum, include:

(a) A description of the proposed installation methodology for the MODU;

(b) A description of any anchoring or support structures (including anchors, chains, wires and spud cans) to be placed on the seabed and the methodology for the placement of these structures;

(c) The findings of any pre-drilling survey;

(d) An assessment of the environmental risks of the operational aspects of the MODU to indicate whether it presents no greater risk than that identified in the Impact Assessment, including any associated mitigation measures; and

(e) The methodology for removal of the MODU and associated support structures, and the estimated timing of removal.
The MIRP, and any amendments, shall be prepared by a suitably qualified and experienced person(s).

**Advice Note:**

*One MIRP may describe the installation and removal of a MODU for multiple wells.*

19. The consent holder, for each well drilled under this marine consent, shall notify the EPA in writing of the following activities:

   (a) At least 48 hours prior to the activity commencing or any other timeframe agreed to by the EPA, the intended commencement date of:

      i. The MODU pre-installation works;
      
      ii. The MODU installation; and
      
      iii. The drilling operations.

   (b) Within five (5) working days of completion of the activity or any other timeframe agreed to by the EPA:

      i. The date that the MODU is in location and fully installed, including latitude and longitude of the location of the MODU; and
      
      ii. Sightings of any marine mammals during installation.

20. The consent holder shall maintain a log for each well. The log shall be provided to the EPA within six (6) months of completion of each drilling campaign or upon request. Each log shall contain:

   (a) The name and location of the wells drilled;
   
   (b) The total volume of cement used per well drilled, estimated by dry weight;
   
   (c) The total weight of milling swarf taken onshore for disposal;
   
   (d) The total volume of water-based muds used in each well;
   
   (e) The total volume of synthetic-based muds used in each well;
   
   (f) The in-situ volume of drill cuttings removed from each well; and
   
   (g) The total volume of water-based muds and cement discharged directly to the sea by way of a batch discharge(s), including the date(s) of such a discharge(s).

21. The consent holder shall ensure that, in the event that synthetic-based drilling fluids are used in the EAD activities, all affected cuttings are collected and transported for disposal to an authorised onshore facility. The consent holder shall provide to the EPA, within six (6) months of completion of each drilling campaign or upon request, a record of:

   (a) The volume of such material collected and disposed of;
(b) The date(s) that such material is transported to the onshore facility, including receipts to confirm shipping and disposal of the material; and

(c) The name and address of the onshore disposal facility.

22. The consent holder shall notify the EPA, in writing, within five (5) working days:

(a) Of the date of the departure of any MODU from its location at the conclusion of each well; and

(b) That any drilling campaign has ended.

23. The consent holder shall ensure that:

(a) No more than ten (10) wells are drilled under this marine consent; and

(b) All the wells shall be located within the area covered by the Area of Interest (AOI) outlined in the Impact Assessment.

For the purposes of this condition a 'well' means a single well drilled into the seabed except where that well is required to be re-spudded, in which case the initial well and the re-spudded well are together deemed to be a single well.

24. The consent holder shall ensure that:

(a) The total in-situ volume of strata removed as a result of drilling any one well authorised by this marine consent shall not exceed 532 m$^3$, unless the well is required to be re-spudded; and

(b) In the event that the well is required to be re-spudded, the total volume removed may be increased by an additional 517 m$^3$.

*Advice Note*

All volumes in this condition shall be calculated during well design and reported in accordance with the well log requirements of Condition 20.

25. The consent holder shall make available to offshore personnel, a New Zealand marine mammal and seabird species identification guide to assist in the accurate identification of species.

26. The consent holder shall maintain a log of any seabird collisions with any MODU or support vessels associated with activities authorised by this consent PML 381012, within the AOI, including the following information where available:

(a) Date and time of collision;

(b) Weather conditions;

(c) Species (where known);

(d) Condition of the bird (dead, released alive and unharmed or injured); and

(e) Photographs (where practicable).
27. Where a live injured seabird is found on any MODU or support vessel associated with activities authorised by this consent, the consent holder shall notify the Department of Conservation as soon as reasonably practicable in the circumstances.

28. The consent holder shall provide the log referred to under Condition 26 to the EPA and/or the Department of Conservation upon request.

29. 

(a) The consent holder shall, for each of the proposed wells (except the well referred to as “Māui-8”) authorised by this marine consent, submit a WSMP to the EPA, no later than 20 working days prior to the commencement of any individual well drilling activities.

(b) The purpose of each WSMP is to:

i. Identify whether there are any sensitive environments (refer to definitions) that may be affected by the activities authorised by this marine consent;

ii. Identify the measures to be used to ensure that the activities authorised by this marine consent do not result in any adverse environmental effects beyond the nature and scale described in the application; and

iii. Report on observations and measurements of any effects of the activities authorised by this marine consent on the benthic environment.

(c) The WSMP shall be prepared by a suitably qualified and experienced person(s) and shall be consistent with the certified EMP required by Condition 8 of this marine consent, and shall include:

i. The location coordinates of sampling sites in relation to the well location;

ii. The frequency and duration of sampling, including prior to and after each well being drilled;


iv. The sampling methodology to be employed; and

v. Reporting requirements and reporting frequencies.

(d) In developing the environmental monitoring methodology at 29(c)iv, the consent holder shall:

i. Consult the members of the CAG required to be set up in accordance with Condition 17 of this marine consent; and

ii. Seek to ensure any effects on monitoring on marine mammals, fish, and benthic communities are minimised.
Advice Note:

The pre-drill monitoring activities for Māui-8 will take place pursuant to the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013 rather than under EEZ200011. A WSMP outlining details of monitoring after the drilling of Māui-8 has been submitted to the EPA for this application.

30. The consent holder shall operate in accordance with the WSMP required by Condition 29 of this marine consent.

31. The consent holder shall ensure that the period of time between the completion of the pre-drill monitoring programme for each well and the installation of the MODU at the same well does not exceed six (6) months.

32. In the event that pre-drill monitoring identifies any sensitive environment(s), located near any proposed well in any drilling campaign that may be potentially affected by the activities authorised by this marine consent, the consent holder shall:

   (a) Ensure no structure, other than structures associated with seabed surveys and environmental monitoring, shall be placed on or within any sensitive environment;

   (b) Move the location of the well to the extent required to ensure that the depositional thickness of drilling cuttings on the area containing the sensitive environment does not exceed 6.5 m, as demonstrated by cuttings deposition modelling; and

   (c) Notify the EPA of any sensitive environment identified and the new location of any affected well within 20 working days of the completion of the pre-drill survey.

33. The consent holder shall prepare and provide a Compliance Report to the EPA within six months of the completion of the environmental monitoring programme for each drilling campaign. The purpose of the Compliance Report is to record the results of monitoring and describe how the various conditions of consent have been complied with. Each Compliance Report shall be prepared by a suitably qualified and experienced person(s), and shall, as a minimum, include the following:

   (a) A description, analysis, evaluation and discussion of the environmental monitoring undertaken as required by any condition of this marine consent;

   (b) A copy of all raw data from any environmental monitoring undertaken in accordance with any condition of this marine consent. All data shall be provided to the EPA in an electronic format agreed to by the EPA;

   (c) Details of any ROV survey undertaken in accordance with Condition 12; and

   (d) An assessment of how each drilling campaign has complied with the conditions of this marine consent.

Advice Note:

The Consent Holder may choose to prepare a combined Compliance Report for drilling campaigns that may take place in other parts of the AOI. Such a combined report may be submitted for the purposes of complying with this condition.

END OF MARINE CONSENT DOCUMENT
Pursuant to section 62(1)(a) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, the application for marine discharge consent by OMV Taranaki Ltd (NZBN 9429040947921) to undertake restricted discretionary activities (listed in Schedule 1) in the Taranaki Bight for a 10 well Exploration and Appraisal Drilling programme is GRANTED subject to conditions (set out in Schedule 2).

The marine discharge consent expires on 5 June 2050.

Dated: 8 May 2020

[Signatures]

Jennifer Vernon  
DMC Chair

Gerda Kuschel  
EPA Board Member

R J (George) Hooper  
DMC Member
SCHEDULE 1: OMV Taranaki Limited Marine Discharge Consent EEZ200011-2 Authorised Restricted Activities

This marine discharge consent authorises the following restricted activity, subject to conditions listed in Schedule 2.

Section 20B – No person may discharge a harmful substance from a structure or from a submarine pipeline into the sea or into or onto the seabed of the exclusive economic zone.

1. To discharge of harmful substances from a structure (Mobile Offshore Drilling Unit(s)) to the sea, as part of the Māui Exploration and Appraisal Drilling Programme, in relation to the exercise of PML 381012 including:
   
   a) The discharge of production water during testing operations;
   b) The discharge of trace hydrocarbons;
   c) The discharge of Blowout Preventer Fluid;
   d) The discharge of cement;
   e) The discharge of drilling fluids;
   f) Discharges from Drill Stem Testing; and
   g) Other operational discharges.
SCHEDULE 2: OMV TARANAKI LIMITED MARINE DISCHARGE CONSENT EEZ200011-2 CONDITIONS

DEFINITIONS

Terms used in this Schedule of Conditions shall have the following meanings:

Consent holder

Has the meaning given in section 4 of the EEZ Act.

Drilling campaign

Drilling of one or several wells undertaken by a single MODU under EEZ200011-1.

Drilling fluids

Mixtures of bulk water, sea water, or base oil, minerals and other products, (collectively also known as ‘drilling mud’). Drilling fluids may include water-based muds or synthetic-based muds.

EAD

Exploration and Appraisal Drilling.

EEZ Act

Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, as amended from time to time.

EPA

The Environmental Protection Authority or any equivalent Authority having an equivalent role under the EEZ Act.

Existing interest

Has the same meaning given in section 4 of the EEZ Act.

MODU

Mobile Offshore Drilling Unit.

OTL

OMV Taranaki Limited (the consent holder).

Working day

Has the same meaning given in section 4 of the EEZ Act.

CONDITIONS

1. Subject to compliance with these consent conditions, the activities authorised by this marine discharge consent shall be undertaken in accordance with the following documents:

   (a) The application document entitled “Marine Consent and Marine Discharge Consent Application – Māui Field – Exploration and Appraisal Drilling Programme” (dated October 2019, updated December 2019) prepared by SLR Consulting NZ Limited; and

   (b) The further information provided by OMV Taranaki Limited (OTL) on 17 January 2020 and 21 February 2020.
Where there is any actual or apparent conflict between these documents, and any of the conditions of this marine discharge consent, the conditions of this marine discharge consent shall prevail.

2. This marine discharge consent shall expire on 5 June 2050.

3. Pursuant to section 85 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act), this marine discharge consent shall lapse on 1 August 2029 unless it is given effect to prior to that date, or the Environmental Protection Authority (EPA) grants an extension to the date in accordance with section 85(1)(b) of the EEZ Act.

4. The consent holder shall ensure that a copy of this marine discharge consent, and any variations of it, is available for inspection by the EPA at the consent holder's head office in New Zealand and on any MODU undertaking activities authorised by this marine discharge consent.

5. The consent holder shall ensure that all personnel, including any contractors, involved in undertaking any of the activities authorised by this marine consent are fully informed with respect to these conditions and their duty to comply with this marine discharge consent.

6. The consent holder shall keep a record which must show that the personnel, including contractors, referred to in Condition 5 have been informed of their obligations under this marine discharge consent. The consent holder shall provide a copy of this record to the EPA upon request.

7. The consent holder shall, at least 20 working days prior to first commencing the activities authorised by this marine discharge consent, or any other timeframe agreed to by the EPA, provide to the EPA, in writing, the name and contact details of the person who has responsibility for compliance management, collating information, and reporting in accordance with the requirements of this marine discharge consent. If the responsible person(s) changes, the consent holder shall advise the EPA, in writing, of the name and contact details of the new person(s) within ten (10) working days of the change.

8. The consent holder shall advise the EPA, in writing, of the date that it intends to first undertake the activities authorised by this marine discharge consent at least ten (10) working days prior to that commencement, or any other timeframe agreed to by the EPA.

9. The consent holder shall ensure that:

   (a) No harmful substances other than those identified in Appendix 1 of this Schedule are discharged as part of the Māui Exploration and Appraisal Drilling (EAD) drilling activities; and

   (b) The discharge of a harmful substance does not exceed the maximum volume or maximum mass (as applicable) per well, as specified in Appendix 1 of this Schedule.

10. The consent holder shall notify the EPA immediately upon becoming aware of any adverse effects on the environment or existing interests that:

    (a) Were not anticipated when this marine discharge consent was granted;

    (b) Are of a scale or intensity that were not anticipated when this marine discharge consent was granted; or

    (c) Arise in the event of a harmful substances spill to sea.
Advice Note:

If such adverse effects occur the EPA may, pursuant to section 76(1)(c) of the EEZ Act, serve notice on the consent holder of its intention to review the duration or conditions of this marine discharge consent.

11. The consent holder shall keep a written record of the following for each well:

   (a) The name and location of the wells drilled;

   (b) The total volume of cement used per well drilled, estimated by dry weight;

   (c) The total volume of water-based muds used in each well; and

   (d) The total volume of water-based muds and cement discharged directly to the sea by way of a batch discharge(s), including the date(s) of such a discharge(s).

The consent holder shall provide a copy of the above information for each well drilled during any drilling campaign to the EPA within six months of completion of each campaign or upon request.

Appendix 1 – Harmful Substances, including maximum amounts (as volume or mass as applicable), authorised by this marine discharge consent

<table>
<thead>
<tr>
<th>Harmful substance</th>
<th>HSNO classification</th>
<th>Discharge stream and use</th>
<th>Maximum volume or mass per well location</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARAKLEAN-926</td>
<td>9.1C</td>
<td>Drill stem testing - well cleaner</td>
<td>1,600 L</td>
</tr>
<tr>
<td>BIOGUARD PLUS</td>
<td>9.1A</td>
<td>Cooling system - antifoulant</td>
<td>1,233 L</td>
</tr>
<tr>
<td>CAUSTIC SODA</td>
<td>9.1D</td>
<td>Drilling mud additive - pH control</td>
<td>2.58 t</td>
</tr>
<tr>
<td>CLAY GRABBER</td>
<td>9.1B</td>
<td>Drilling mud additive - shale stabiliser</td>
<td>10 t</td>
</tr>
<tr>
<td>EMBR11720A</td>
<td>9.1B</td>
<td>Drill stem testing - demulsifier</td>
<td>Trace amounts²</td>
</tr>
<tr>
<td>ERIFON HD 603 HP NO DYE</td>
<td>9.1A</td>
<td>Blowout preventer - hydraulic fluid</td>
<td>2,333 L</td>
</tr>
<tr>
<td>GASSTOP EXP</td>
<td></td>
<td>Oil - Cement additive - fluid loss additive</td>
<td>119.03 L</td>
</tr>
<tr>
<td>HR25-L</td>
<td>9.1D</td>
<td>Cement additive - cement retarder</td>
<td>189.27 L</td>
</tr>
<tr>
<td>JET-LUBE ALCO EP 73 PLUS</td>
<td>9.1B</td>
<td>Riser connector - lubricant</td>
<td>Trace amounts³</td>
</tr>
<tr>
<td>JET-LUBE KOPR-KOTE</td>
<td>9.1A</td>
<td>Wellhead connectors - lubricant</td>
<td>Trace amounts³</td>
</tr>
<tr>
<td>JET-LUBE NCS-30 ECF</td>
<td>9.1C</td>
<td>Joints and drill collars - lubricant</td>
<td>Trace amounts³</td>
</tr>
<tr>
<td>LIME</td>
<td>9.1D</td>
<td>Drilling mud additive - pH control</td>
<td>2.1 t</td>
</tr>
<tr>
<td>MICRO MATRIX® CEMENT RETARDER</td>
<td>9.1C</td>
<td>Cement additive - cement retarder</td>
<td>75.7 L</td>
</tr>
<tr>
<td>PERFORMATROL</td>
<td>9.1D</td>
<td>Drilling mud additive - shale stabiliser</td>
<td>40 t</td>
</tr>
<tr>
<td>RENACLEAN A</td>
<td>9.1D</td>
<td>Slops tank - water treatment and cleaning</td>
<td>67 t</td>
</tr>
<tr>
<td>RENACLEAN B</td>
<td>9.1B</td>
<td>Slops tank - water treatment and cleaning</td>
<td>67 L</td>
</tr>
<tr>
<td>Harmful substance</td>
<td>HSNO classification</td>
<td>Discharge stream and use</td>
<td>Maximum volume or mass per well location1</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------</td>
<td>---------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>SEAL GUARD ECF</td>
<td>9.1D</td>
<td>Tubular threads – lubricant</td>
<td>Trace amounts3</td>
</tr>
<tr>
<td>SHELL SARALINE 185V</td>
<td>Oil</td>
<td>Drill stem testing – cushion</td>
<td>Trace amounts2</td>
</tr>
<tr>
<td>SPHERELITE</td>
<td>9.1C</td>
<td>Cement additive</td>
<td>8 t</td>
</tr>
<tr>
<td>Trace amounts of hydrocarbons</td>
<td>Oil</td>
<td>Drilling fluids - entrained if hydrocarbons are encountered</td>
<td>Trace amounts4</td>
</tr>
</tbody>
</table>

Notes

1. Maximum volume/mass refers to the maximum amount of a harmful substance that is authorised to be discharged as each well location.

2. Trace amounts in this instance refers to the very small volumes of a substance which may be combusted during flaring during drill stem testing, and which will enter the sea of the EEZ as fallout.

3. Trace amounts in this instance refers to the very small volumes of a substance which may diffuse into the water column at points where these substances come into direct contact with the sea of the EEZ.

4. Trace amounts in this instance refers to the very small volumes of a substance which could become entrained in drilling fluids and be adhered to drill cuttings that are discharged into the sea of the EEZ.

END OF MARINE DISCHARGE CONSENT DOCUMENT
EXCLUSIVE ECONOMIC ZONE AND CONTINENTAL SHELF (ENVIRONMENTAL EFFECTS) ACT 2012

OMV Taranaki Limited: EEZ200011

Reasons for the Decision on Application for Marine Consent EEZ200011-1 and Marine Discharge Consent EEZ200011-2
Executive Summary

i. Pursuant to section 62(1)(a) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act), the application for marine consent and marine discharge consent lodged by OMV Taranaki Limited (OTL) to undertake restricted discretionary activities (listed in Schedule 1 of the Marine Consent and Marine Discharge Consent) is GRANTED subject to conditions (listed in Schedule 2 of the Marine Consent and Marine Discharge Consent).

ii. The reasons for granting the application are set out in this decision as required by section 69 of the EEZ Act. In making our decision on these applications, we have acted as an independent decision-maker under delegated authority from the Environmental Protection Authority (EPA). We have assessed the matters set out in sections 59 and 60 of the EEZ Act, we have applied the information principles set out in section 61 of the EEZ Act, and applied the decision-making criteria in section 10 of the EEZ Act.

iii. OTL lodged an application for marine consent and marine discharge consent on 6 November 2019. The applications seek authorisation to undertake various restricted activities associated with an Exploration and Appraisal Drilling (EAD) programme involving the drilling of up to ten exploration and appraisal wells in the Māui Field located within the Taranaki Basin using Mobile Offshore Drilling Units (MODU).

iv. We find that the risks to the biological environment associated with activities for which marine consent is sought, including cumulative effects, are, at worst, moderate. However, the scale of adverse effects on various elements of the biological environment are, at worst, minor and for many of the elements of adverse effects on the environment the rating is negligible.

v. Adverse effects on the environment are generally localised, will occur for a relatively short duration, and recovery of benthic environments directly and indirectly affected will begin once the drilling activities and the associated deposition cease at each well site. We accept that mitigation measures imposed by conditions and the methods of undertaking the authorised activities described in the Impact Assessment (IA) will further ensure that effects on the environment are consistent with those identified in the IA.

vi. The existing interests within the area where the activities are to take place are Māori interests, commercial fisheries (including Māori interests in commercial fishing), and marine traffic (shipping).

vii. The primary commercial fishery in the Māui Field where the activities will take place is a mid-water trawl fishery targeting jack mackerel. We find that there could be spatial displacement effects on commercial fisheries (including the Māori interests in commercial fishing) resulting from the MODU being in place, but these effects, including cumulative effects, will be negligible and temporary in nature.

viii. Māori customary fishing interests are sometimes exercised using commercial fishing vessels. We find that, if this occurs in the vicinity of the proposed well locations, Māori customary fishing interests will be affected in the same way as commercial fishing interests (i.e. the effects will be negligible).

ix. We consider that existing interests of iwi, including the ability to act as kaitiaki for the environment, associated outside the Area of Interest (AOI) within the wider Taranaki Basin have the potential to be impacted by the activities. However, to address the potential impacts, the marine consent conditions require ongoing engagement with iwi and hapū who have a relationship with the wider
Taranaki Bight which will enable an exchange of information and assist for iwi and hapū in fulfilling their role as kaitiaki.

x. We have taken into account potential effects of low probability but high potential impact – such as an unplanned oil spill. Based on the information provided by OTL, we accept that the probability of a major oil spill is rare (i.e. may occur in exceptional circumstances). We are satisfied that the drilling programme will be undertaken in accordance with industry best practice and that this risk is therefore very low.

xi. We are also satisfied that other requirements that OTL must comply with under other legislation and regulations, in particular the Safety Case that needs to be approved by WorkSafe New Zealand before drilling commences, will minimise the risk of an oil spill occurring due to loss of well control to as low as reasonably practicable. Further, we are satisfied that Maritime New Zealand and other agencies have the plans, structures, processes, access to equipment, and financial resources to respond to an oil spill event should one occur. Nonetheless, we accept that the overall environmental effects on the biological environment, existing interests, and cultural values from a significant oil spill event could be extensive.

xii. We have taken into account the nature and effect of other marine management regimes (MMRs) pursuant to section 59(2)(h) of the EEZ Act, while noting that those MMRs have different purposes to the EEZ Act. They all, however, impose standards and requirements that are relevant to the environmental matters that we must consider under section 59 of the EEZ Act. As required, we have taken care not to impose conditions that might conflict with measures required by other MMRs or the Health and Safety at Work Act 2015.

xiii. After considering all the information provided by OTL and taking into account the matters listed in sections 59 and 61 of the EEZ Act, we find that granting the marine consent and marine discharge will achieve the purpose set out in section 10 of the EEZ Act.

xiv. We find that while the discharge activity causes adverse effects to the environment, these effects are less than minor and do not amount to material harm to the environment. The conditions we have imposed that regulate which harmful substances are authorised to be discharged ensures this.

xv. We acknowledge that the activities authorised by the marine consent and marine discharge consent will generate adverse effects, but find that they can be appropriately avoided, remedied, or mitigated through the conditions we have imposed pursuant to section 63 of the EEZ Act (and the requirements of other MMRs).

xvi. We find the conditions proffered by OTL to be generally appropriate. However, following advice from the EPA, commissioned experts, and through further discussion with OTL, we have amended some of those offered and added new conditions to address additional matters.

xvii. Finally, having considered the requirements of sections 59, 61, and 73 of the EEZ Act, and purpose of the EEZ Act, we consider that the duration of the marine consent and marine discharge consent should expire on 5 June 2050.

xviii. Overall, it is our finding that granting this marine consent and marine discharge consent achieves the objectives in the purpose as set out in section 10 of the EEZ Act.
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1. The Decision-making Committee

1. The Environmental Protection Authority (EPA) is the consent authority for certain activities that are restricted within New Zealand’s exclusive economic zone (EEZ) and in or on the continental shelf. One of the EPA’s functions, pursuant to section 13(1) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act), is to decide applications for marine consent and marine discharge consent.

2. On 27 March 2019, the EPA Board appointed us as a Decision-making Committee (DMC) to exercise powers and functions under the EEZ Act related to the application for marine consent and marine discharge consent lodged by OMV Taranaki Limited (OTL) (NZBN 9429040947921). The EPA Board also delegated all the functions and powers of the EPA related to the processing, hearing, and deciding of the application under the EEZ Act to us. Members of the DMC are Jennifer Vernon (Chair), Gerda Kuschel (EPA Board Member) and R J (George) Hooper. This is the written record of our decisions pursuant to section 69 of the EEZ Act.

3. In considering and deciding OTL’s applications, we have applied the statutory framework for determining applications under the EEZ Act.

2. The Applicant and the Application

2.1 The Applicant

4. As outlined in Section 1 of the Impact Assessment (IA), OTL is wholly owned by the parent company OMV New Zealand Limited (OMV), which has been operating in New Zealand since 1999 since gaining a 30% ownership of the Maari Field following its the acquisition of Cultus Petroleum of Australia.

5. In 2002, OMV became the primary operator of the Maari Field within the Taranaki Bight, which is New Zealand’s largest oil field, producing crude oil from the Maari, Mangahewa and Manaia reservoirs. In December 2018, OMV New Zealand Limited purchased Shell Investments NZ Limited’s interests in Taranaki and through this acquisition took over operatorship of the Māui and Pohokura Fields (also in the Taranaki Basin) making it NZ’s largest producer of liquid hydrocarbon and natural gas.

6. OMV is actively searching for additional oil and gas resources within New Zealand and currently holds interest in seven Petroleum Exploration Permits (PEP) and, through various subsidiary entities, OMV has been granted marine consents and marine discharge consents for activities associated with appraisal and exploration drilling programmes in the Great South Basin, off the coast of Otago and also activities associated with a similar programme elsewhere in the Taranaki Basin.

7. OMV New Zealand intends to undertake a multi-well Taranaki Exploration and Appraisal Drilling (EAD) Programme within its PEPs in the Taranaki Basin, for which consents have been already been granted by the EPA. Marine Discharge Consent (EEZ100017) for the discharge of trace amounts of harmful substances from deck drains associated with the Taranaki EAD Programme was granted on 4 October 2018; Marine Consent (EEZ200010) for exploratory drilling and associated
activities restricted by section 20 of the EEZ Act was granted on 15 January 2019; and Marine Discharge Consent (EEZ300011) was granted on 9 October 2019.

8. The Taranaki EAD Programme was expected to commence in December 2019, with consent expiring on 31 December 2025. OMV considers that there is no potential for cumulative effects from the Taranaki EAD Programme and the Māui EAD Programme as the locations of activities do not overlap.

2.2 The Application

9. In December 2018, OTL acquired the complete ownership of the equity in Petroleum Mining Licence (PML) 381012, granted under the Crown Minerals Act 1991 (CMA: 1991), following OMV’s acquisition of Shell’s exploration assets. OTL have assumed the operatorship of the PML 381012 permit area and has identified some hydrocarbon leads and prospects which it will target as part of its exploration drilling obligations under PML 381012.

10. On 6 November 2019, OTL lodged an application for Marine Consent and Marine Discharge Consent (EEZ200011) with the EPA. The applications sought authorisation via marine consent and marine discharge consent to undertake various activities restricted by the EEZ Act associated with OTL’s proposed Māui EAD programme.

11. The restricted activities identified in the IA form part of OTL’s proposed multi-well Māui EAD Programme within the Māui Field in the Taranaki Basin. This programme is designed to determine the presence of hydrocarbons within subsurface geological structures and to investigate the potential for further development of any discovered hydrocarbons within PML 381012 in order to sustain and grow New Zealand’s hydrocarbon reserves. OTL indicate that they will drill up to 10 exploration or appraisal wells as part of the Māui EAD Programme.

12. While only one well location has been confirmed (Māui-8) and two other sites are provisionally assigned, further exploration well locations, and – given success – appraisal well locations, will be dependent on the outcomes of the first exploration well.

13. At the time of lodgement of the application, OTL had commissioned the ‘COSL Prospector’ Mobile Offshore Drilling Unit (MODU) to undertake the drilling of the initial exploration well (Māui-8). In their IA, where applicable, this MODU has been utilised as an example of the typical operations and systems on-board a MODU to clarify certain aspects of the proposed activities.

14. The COSL Prospector is a semi-submersible MODU with dynamic positioning capabilities (which will be used to assist the anchoring process only). This MODU will be anchored to the sea floor using an eight anchor and chain configuration. However, OTL state that the drilling activities will not be solely undertaken by the COSL Prospector. The application for marine consent and marine discharge consent is intended to authorise the use of other MODUs which may be secured to the sea floor by different means over the requested duration of the marine consent and marine discharge consent of 30 years. Therefore, OTL has applied for the necessary consents to authorise the use of a variety of MODUs for the Māui EAD Programme.

15. OTL acknowledges that it requires multiple consents under the EEZ Act before it can carry out drilling in PML 381012. In addition to the marine consent and marine discharge consent sought as part of EEZ200011, the additional requirements include the already granted publicly notified marine discharge consent application (EEZ100014-2) for the discharge of trace amounts of harmful
substances from the deck drains of a MODU(s) used for OTL’s exploration drilling activities in PML 381012. That application was granted by the EPA in December 2017 to Shell Taranaki Ltd but will be utilised by OTL; however, OTL has applied for a variation to this consent to ensure consistency in the classification of harmful substances between OMV’s various EAD programmes.

16. OTL also identified that it was proposing to undertake an infill drilling project from Māui Platform Alpha (MPA) in 2020, which is known as the Māui A Crestal Infill Project. A platform-based drilling rig, ‘Archer Emerald’, will be transported in modular form to MPA, where it will be assembled and integrated with the existing MPA systems and will drill six or seven side-track wells from MPA. The Māui A Crestal Infill Project is being undertaken in accordance with Marine Consent EEZ000010 and is scheduled to commence in Q1 2020.

17. OTL’s PML area and the Area of Interest (AOI) which encapsulates the proposed well locations is shown below in Figure 1.

![Figure 1: The location of OTL’s Māui EAD Programme](image-url)
18. Various activities associated with the Māui EAD Programme are restricted activities under sections 20(2) and 20(4) of the EEZ Act and therefore require a marine consent and marine discharge consent to be authorised.

19. The activities for which marine consent authorisation is sought relate to the following planned activities:

   (a) Pre-installation works (including seabed surveys and site clearance);
   (b) Installation and removal of a MODU;
   (c) Drilling (including drilling, installation of subsea wellhead system and side-track drilling);
   (d) Installation of well casing;
   (e) Deposition of drilling cuttings;
   (f) Formation evaluation, including Wireline Formation Testing (WFT) and Drill Stem Testing (DST);
   (g) Remote Operated Vehicle (ROV) works and placement of transponders;
   (h) Well abandonment;
   (i) Environmental monitoring; and
   (j) Contingent activities (including pilot hole drilling, re-spudding, cement disposal and use of explosives).

20. The activities for which marine discharge consent are sought relate to the following planned activities:

   (a) The discharge of production water;
   (b) The discharge of Blowout Preventer (BOP) Fluid;
   (c) The discharge of trace hydrocarbons;
   (d) The discharge of drilling fluids;
   (e) The discharge of excess cement;
   (f) Discharges from DST; and
   (g) Other operational discharges.

21. Further details of the proposed activities are presented in Section 6 of this decision.

22. There are other activities associated with the Māui EAD programme described in the application which either do not require marine consent or marine discharge under the EEZ Act, or need to comply with various other regulations under other marine management regimes (MMRs). We discuss these later in this decision.
2.3 Notification and Processing pathway

23. Section 29D of the EEZ Act provides for regulations to be promulgated which may describe any discretionary activity as non-notified or provide that an application for a marine consent and marine discharge consent for an activity is not to be publicly notified.

24. The DMC notes that section 29D(2) of the EEZ Act states any such regulations may only be promulgated if the Minister is of the opinion that:

(a) the activity has a low probability of significant adverse effects on the environment or existing interests; and

(b) the activity is—

(i) routine or exploratory in nature; or

(ii) an activity of brief duration; or

(iii) a dumping activity.

25. In February 2014, the Exclusive Economic Zone and Continental Shelf (Environmental Effects—Non-notified Activities) Regulations 2014 came into force and regulations 5 and 6 state:

5. Activities described in section 20(2) or (4) of the Act that are involved in exploration drilling for petroleum in the exclusive economic zone or in or on the continental shelf are classified as non-notified activities and an application for a marine consent for any of those activities is not to be publicly notified if the applicant complies with regulation 6.

6. Regulation 5 applies subject to the condition that—

(a) the geographical area covered by the application for a marine consent is the same or part of the same geographical area covered by a permit or adjacent permits under the Crown Minerals Act 1991; or

(b) the activity is authorised by an existing privilege held by the applicant that is preserved by clause 12 of Schedule 1 of the Crown Minerals Act 1991.

26. OTL’s proposed activities are located within the geographical area covered by its PML (PML 381012) issued under the CMA: 1991, and therefore comply with Regulation 6(a). As such, Regulation 5 confirms that activities involved in exploration drilling for petroleum in the EEZ which are regulated by section 20(2) or (4) of the EEZ Act are classified as non-notified, and an application for such activities is not to be publicly notified.

27. Despite the fact that the activities are classified as non-notified and the application is not to be publicly notified, section 45 of the EEZ Act requires the EPA to serve a copy of non-notified applications (and IA) on specified parties. However, there is no provision enabling any of those parties to lodge a submission regarding the application. The EEZ Act is silent on the question as to what the EPA is to do with any response from serving copies of the application. We are advised that the question as to what consideration is given, and the weight if any, to attach to any response, is a matter for the DMC.
28. EPA staff advised\(^1\) that notification, via email and letter, was sent to 1,083 parties advising them that OTL had lodged its application. The notification provided links to the EPA website to access the application, IA, and supporting documents. The parties served were made up of:

(a) 61 Māori organisations or groups (being iwi authorities and applicant groups for customary marine title or protected customary rights);

(b) Taranaki Regional Council and Horizons Regional Council;

(c) Six government ministries, departments, and crown entities (including Maritime New Zealand (MNZ));

(d) 21 parties with Department of Conservation (DoC) Concessions;

(e) 818 fishing quota and annual catch entitlement holders;

(f) Four (4) commercial fishing entities being Deepwater Group Ltd, Fisheries Inshore New Zealand, Te Ohu Kaimoana and the Commercial Fisheries Forum;

(g) Two (2) current marine consent holders under the EEZ Act;

(h) 125 coastal permit holders under the Resource Management Act 1991 (RMA); and

(i) 44 other persons potentially having existing interests that may be affected by the application.

29. The EPA did not receive any responses from parties following the section 45 notification, including those hapū and iwi applying for recognised customary interests under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACA Act) within the Taranaki region. The DMC noted that some of these hapū and iwi were not included in the OTL consultation outlined in 8.4.1.3 of this decision.

30. Just prior to the completion of the deliberations for the marine consent and the marine consent discharge consent, the DMC were made aware of the Court of Appeal decision regarding an EEZ application made by Trans-Tasman Resources (TTR). The DMC sought an extension of time to reassess the evidence before them and test it against the threshold of ‘harm’ in section 10 of the Act. The DMC needed to be satisfied that there was not a lack of information or undue uncertainty as to whether the requirements of section 10 could be met.

31. The DMC concluded that the Taranaki Basin is an area where petroleum exploration and drilling had taken place for over forty years which made it a ‘brownfield’ application with regards to the activities for which consent was being sought. The DMC were satisfied that any adverse effects of the activities could be avoided, remedied or mitigated through the conditions imposed.

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\(^1\) EPA Memorandum - Serving copies of OMV Taranaki Limited’s non-notified applications for marine consent and marine discharge consent EEZ200011 under s45 of the EEZ Act, 27 January 2020.
3. Decision-making Process and Procedural Matters

3.1 Introduction

32. In making this decision, we have followed a comprehensive and robust decision-making process which involved commissioning various reports from the EPA, its external expert reviewers, and Ngā Kaihautū Tikanga Taiao (NKTT), being the EPA’s Māori Advisory Committee. In addition, we requested further information from OTL and invited comment from OTL on other matters. This included the author of the document ‘OTL Limited, Marine Consent and Marine Discharge Consent Application EEZ200011 - Conditions Report, Prepared for the Decision-Making Committee, February 2020’ (EPA Conditions Report) providing a copy of the draft revised conditions for OTL’s feedback ahead of finalising that report, and then receiving further comments on the EPA Conditions Report from OTL following the release its final version. We are satisfied that we have fulfilled our duty under section 61 of the EEZ Act to ensure that we had the best available information on which to base our decision without unreasonable cost, effort, or time.

33. The following sections provide a summary of the reports we commissioned, the requests for further information issued to OTL, and various procedural matters which arose during the decision-making process.

34. A detailed procedural history timeline for the application is presented in Appendix 2.

3.2 Commissioned Reports

35. Details of the reports commissioned, and advice sought by us under section 56 of the EEZ Act, are outlined in Table 1.

Table 1 – DMC commissioned reviews and advice sought under section 56 of the EEZ Act

<table>
<thead>
<tr>
<th>Report From</th>
<th>Topic</th>
<th>Date Report Received</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent reviews sought under section 56(1)(a)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil and Gas Solutions (OGS)</td>
<td>Technical review and analysis of operational activities (authored by Mr Broomhead).</td>
<td>17 January 2020 and Addendum Report 13 February 2020</td>
</tr>
<tr>
<td>Seapen Marine Environmental Services (Seapen)</td>
<td>Review of the effects of the exploration drilling and discharge applications with a focus on the benthic environment effects (authored by Mr Baxter).</td>
<td>22 January 2020</td>
</tr>
<tr>
<td>Coffey Services (NZ) Ltd (Coffey)</td>
<td>Technical review of drill cuttings dispersion modelling (authored by Mr Rogers).</td>
<td>21 January 2020</td>
</tr>
<tr>
<td>Coffey</td>
<td>Technical review of hydrocarbon dispersion modelling (authored by Mr Rogers).</td>
<td>21 January 2020</td>
</tr>
<tr>
<td><strong>Advice from Māori Advisory Committee under section 56(1)(b)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
36. We have had regard to the contents and recommendations of all of the reports and correspondence identified in the table above as part of our decision-making process.

### 3.3 Requests for Information from OTL

37. We requested further information from OTL, under section 54(1) of the EEZ Act, on two occasions as outlined in Table 2.

#### Table 2 - Further information requested from OTL under section 54 of the EEZ Act

<table>
<thead>
<tr>
<th>Request Number</th>
<th>Date of Request</th>
<th>Date Information Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9 January 2020</td>
<td>17 January 2020</td>
</tr>
<tr>
<td>2</td>
<td>10 February 2020</td>
<td>21 February 2020</td>
</tr>
</tbody>
</table>
38. The information requested from OTL covered many different aspects of the application and IA including:

(a) Seismic risk to the proposed activities including well construction;
(b) Requesting records of CAG meetings and details as to who sits on the group;
(c) How OTL has given effect to best practice across all aspects of the application, specifically in relation to the Good Oilfield Practices²;
(d) Responses to matters raised in the technical review of the operational activities; and
(e) Additional information on OTL’s consultation and engagement undertaken.

39. We record here that OTL provided all the information that we requested, and that information has afforded an essential basis upon which we have been able to make a decision on this application.

40. In addition to the formal requests for further information, OTL were provided the opportunity to comment on the draft revised conditions prior to the EPA Conditions Report being finalised. OTL provided a subsequent response to the final version of the EPA Conditions Report on 18 March 2020.

41. OTL provided a response to the matters raised in the NKTT Report, received by the EPA on 13 February 2020, and further comment on the NKTT Addendum on 26 March 2020.

42. Where relevant, these responses are discussed later in this decision.

3.4 Deliberations

43. In addition to an initial induction meeting, the DMC held 15 meetings to consider the application, deliberate and finalise this decision.

44. During those meetings we applied the decision-making requirements outlined in the EEZ Act. These are discussed in greater detail in Section 4 of this report.

3.5 Procedural Matters

45. There were several procedural matters which the EPA and DMC dealt with during the processing and consideration of OTL’s application. These are discussed below.

3.5.1 Completeness of Application and Impact Assessment

46. Section 40 of the EEZ Act requires the EPA to determine whether an application is complete in terms of section 38 of the EEZ Act. Section 38 of the EEZ Act outlines the minimum requirements that an application and IA must meet before it is deemed to be complete.

² NOTE: Appendix J of the Impact Assessment states that Good Oilfield Practice can be defined as “the practices, methods and acts engaged in by professional and experienced producers of oil and natural gas in established producing regions internationally, that would be expected to accomplish the desired result in a manner consistent with law, regulation, reliability, safety, environmental protection, economy and expedition” (Law Insider, 2018).
47. The DMC records that the EPA decided the application as being complete on 4 December 2019.

3.5.2 Joint Hearing of Applications

48. As previously stated, OTL already hold a marine discharge consent (EEZ100014-2, a publicly notified marine discharge consent application) to discharge trace amounts of harmful substances (offshore processing drainage) through the deck drains of any MODU to the sea as part of the activities associated with its EAD programmes in Taranaki.

49. Section 44(1) of the EEZ Act provides the EPA with discretion to decide whether related applications should be heard at the same time and place, and if decisions on related applications should be made on the same date. Section 44(2) provides the EPA with the power to extend a time period to ensure that the related applications are heard at the same time and place or to ensure that decisions on the related applications are made on the same date.

50. As both applications relate to the OTL’s EAD programme, and the application for marine discharge consent was publicly notified, both sections 44(1)(a) and (b) are satisfied and the applications would have been eligible to be decided (and heard) at the same time. However, we note that EEZ100014-2 had already been granted at the time of lodgement of the consents to which this application relates. Therefore, any decision on joint processing was not a matter which we could have made a determination on.

3.5.3 Need for a Hearing

51. Section 50 of the EEZ Act provides that the EPA may conduct a hearing (either in public or in private) for a non-notified consent if it considers it necessary or desirable, even if the applicant does not request one. The applicant did not request a hearing in this application process.

52. The DMC resolved at its meeting held on 2 March 2020, that it was not necessary to hold a hearing in this case as we did not consider it necessary or desirable as it would not provide any additional value to our consideration of this application.

53. In making its decision not to hold a hearing, the DMC recorded in Minute 4 that it was conscious of both its obligation under section 61 of the EEZ Act to base its decision on the best available information and the time, cost, and effort considerations involved in holding a hearing.

3.5.4 Extension of Time

54. An extension of a statutory time period under the EEZ Act may be made under section 159 of the EEZ Act provided the DMC has taken into account the matters provided for in section 160. Those matters include the interests of any person who, in the EPA’s opinion, may be directly affected by the extension and the interests of the community in being able to achieve an adequate assessment of the potential effects of a proposal.

55. On 10 February 2020, we issued Minute 1 requesting comment from OTL on a proposed extension of time for considering their application.

56. OTL responded on 12 February 2020, stating that any substantial delay (i.e. 50 working days) would have fundamental negative implications for them being able to continue to prepare for the Māui-8 drilling programme and it also introduces the risk that the contracted MODU, support vessels, crew
and equipment could be idle for extended periods which result in substantial cost implications and also means that crews and equipment may be relocated elsewhere in the world.

57. Following the response from OTL, we issued Minute 2 on 20 February 2020 which identified that in the event that we are in the position that we have the best available information when the currently outstanding further information and advice was received, it is likely an extension of time would be required to make the decision on the application.

58. Following Minute 2 on 5 March 2020, we resolved it was necessary to extend the statutory time period by which a decision on an application for a non-notified marine consent must be issued, as specified in section 68(2) of the EEZ Act. That extension was of 24 working days from 6 March to 9 April 2020. This decision was recorded in Minute 4 which concluded that:

9. In making this decision the DMC has taken into account the interests of any person who may be directly affected by the extension and the interests of the community in being able to achieve an adequate assessment of the potential effects on the proposal, in accordance with section 160 of the Act.

10. Having assessed all these matters, the DMC is of the view that an extension of time is required to consider all the information and prepare a fully reasoned decision and is in the best interests of all persons directly affected by the extension.

11. In accordance with section 159(1)(a) of the EEZ Act, the DMC has extended the time period to make its decision on the applications by 24 working days, from 6 March to 9 April 2020.

59. On 8 April 2020, we issued Minute 6 requesting comment from OTL on a proposed further extension to the time limit to make a decision on their application. We proposed this time extension so we could consider the findings of the Court of Appeal in their decision on Trans-Tasman Resources Limited v Taranaki-Whanganui Conservation Board (the TTR Decision), that was released on 3 April 2020.

60. OTL responded on 14 April 2020, stating that, under the circumstances, it did not object to the proposal but requests that the new extended deadline be adhered to.

61. Following the response from OTL, we issued Minute 7 on 17 April 2020 advising of the decision to extend the time limit for making a decision to 12 May 2020.

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3 Section 68(2) of the EEZ Act states that the EPA must make its decision on an application for a marine consent for a non-notified activity as soon as is reasonably practicable and no later than 50 working days after the date on which the EPA is satisfied that the application is complete.

4 NOTE: Minute 5 (issued 9 March 2002) identified that Minute 4 incorrectly calculated the number of working days as 22 days. It should have been 24 days.

5 [2020] NZCA 86 [3 April 2020]
3.5.5 Marine Discharge Consent Decision (EEZ1000014-2)

62. As discussed earlier in the decision, Section 2.4 of the IA identifies that OTL hold a marine discharge consent for the discharge of trace amounts of harmful substances from the deck drain of a MODU under Regulation 16(1) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Discharge and Dumping) Regulations 2015 (D&D Regulations). That application, which was notified and determined by a separate DMC, was granted on 11 December 2017. We note that the IA states that this application is currently subject to a variation to ensure the contaminants identified are consistent with those that will be used on the MODUs under the Māui EAD Programme.

63. As marine discharge consent EEZ100014-2 forms part of the ‘existing environment’, relates to the same Maui EAD programme, and the discharges would occur from the MODUs which are the subject of this application, the DMC (under section 56 of the EEZ Act) requested from EPA staff, and was subsequently provided with, a copy of the marine discharge consent decision and conditions.

64. We have sought to ensure consistency in approach and wording with respect to the conditions (where appropriate) that we have imposed, both with respect to EEZ100014-2 and consents issued for a similar activity in the Great South Basin.

EEZ Act and Regulations

4. Duties of the EPA and DMC

4.1 Introduction

65. The statutory framework of the EEZ Act under which this decision has been made can be separated into the following headings:

(a) Purpose and Principles of the EEZ Act, including international obligations and the Treaty of Waitangi;

(b) Section 20 – Restrictions on activities other than discharges and dumping;

(c) Section 20B – Restrictions on Discharges of Harmful Substances from Structures and Submarine Pipelines;

(d) Section 20C - Restriction on mining discharges from ships;

(e) Decision-making Criteria; and

(f) Information Principles.

66. The relevant sections of the EEZ Act that apply to the headings above have been provided in full in Appendix 3.

67. There are regulations and other laws relevant to our decision-making, and these must be taken into account under sections 59(2)(k) and (l) of the EEZ Act. Where relevant, these are discussed later in this decision.
4.2 Treaty of Waitangi

68. Section 12 of the EEZ Act outlines the specific actions that the EPA (and this DMC) must undertake in order to recognise and respect the Crown’s responsibility to give effect to the principles of the Treaty of Waitangi. In this case subsections (a), (c) and (d) of section 12 of the EEZ Act are relevant. Subsection (b) is not relevant in this case as it relates to development of proposed regulations.

69. The DMC notes that the EPA served notice of OTL’s application on 61 Māori organisations or groups (being iwi authorities, or applicant groups for customary marine title or protected customary rights) under section 45 of the EEZ Act, as discussed in Section 2.3 of this decision.

70. We sought advice from NKTT, who provided a report to us on 28 January 2020 (and Addendum Report on 13 March and 24 April 2020), to which we have had regard as required by section 59(3)(c) of the EEZ Act. We discuss the advice provided to us by NKTT later in this decision.

71. In terms of clause (c) of section 12 of the EEZ Act, we have taken into account effects of the proposed activities on existing interests and we discuss these in Section 8.4.1 of this decision.

72. In response to the TTR Decision, released 3 April 2020, the DMC sought further advice from NKTT in relation to cultural interests within the Taranaki area and specifically any applications in progress or decided for recognised customary interests under the MACA Act. This advice was used as part of the reassessment of this decision regarding cultural values.

4.3 Information Principles

73. Section 61 of the EEZ Act sets out our information obligations.

4.3.1 Full Use of Powers

74. We are required to make full use of our powers to seek out information, base our decisions on the best available information and consider any uncertainty or inadequacy in the available information. The concept of best available information is defined to mean the best information that, in the particular circumstances, is available without unreasonable cost, effort, or time. We discuss the way in which we have applied this concept in the next section of this decision.

75. In addition to the information lodged with the application, the EPA and DMC both requested further information from OTL. We also commissioned technical reviews and reports, and sought additional information from EPA and external independent experts. We have identified those requests and commissioned reports in Section 3.2 (Commissioned Reports) and 3.3 (Requests for Information) of this decision.

76. We are satisfied that we have made full use of our powers to request and access information, consistent with the nature and scale of these applications, and that we have met our responsibilities under section 61(1)(a) of the EEZ Act.

4.3.2 Best Available Information

77. It is important to note that ‘best available information’ is not necessarily ‘all information’. Rather, under section 61 of the EEZ Act that ‘best available information’ is qualified by the phrase in subsection (5) “…that, in the particular circumstances, is available without unreasonable cost, effort or time”.

EEZ200011 OMV Taranaki Limited Marine Consent and Marine Discharge Consent 13
78. We have sought additional advice and information where we considered this necessary and in doing so, we have exercised our judgment about what information is required while having regard to matters of cost, effort and time. We record that includes:

(a) The application by OTL and the IA, including the supporting documents;

(b) Additional information supplied by OTL in response to further information requests;

(c) Additional comments provided by OTL where they provided such comments;

(d) The ERA Discharges Report;

(e) The EPA Conditions Report;

(f) The EPA’s decisions on OMV’s previous marine consent and marine discharge consents;

(g) The NKTT Report and subsequent Addendums to that Report;

(h) Expert advice (independent reviews commissioned under section 56 of the EEZ Act) provided by OGS, Seapen and Coffey, including further response to OTL’s responses to our questions, and the Joint Statement on Modelling; and

(i) Responses to section 56 of the EEZ Act requests from MNZ, Ministry for MPI (Biosecurity and Fisheries), WorkSafe and DoC.

79. Based on the above, we are satisfied that we have made our decision based on the best available information that is available without unreasonable cost, effort or time in accordance with section 61(1)(b) of the EEZ Act.

4.3.3 Certainty and Caution

80. Section 61(2) of the EEZ Act requires consideration as to whether the information put before us is uncertain or inadequate. If we consider any relevant information is uncertain, then we are required to favour caution and environmental protection in making our decision. In the TTR Decision, the Court of Appeal found at [128] that:6

The information principles recognise that decisions about activities in the EEZ will almost always involve uncertainty and incomplete information. That is not in itself a reason to refuse consent. But if the lack of information and resulting uncertainty about the effects of a proposed activity mean that the EPA is left uncertain whether the s 10(1) objectives will be met if a consent is granted, then the information principles require that consent to be refused. One key purpose of the information principles is to ensure that the environmental objectives of the EEZ Act are not undermined by the grant of consents in circumstances where it is uncertain whether those objectives will be achieved.

81. In deciding to grant consent, we find that the consent conditions reflect an appropriate degree of caution. In reaching that conclusion we have applied section 61(2) of the EEZ Act by favouring caution and applying environmental protection to the extent we consider necessary.

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6 Ibid, at [128].
82. There is no requirement on us to apply a different precautionary approach. The consent holder will have to undertake its proposed activities in such a way that it either avoids, remedies, or mitigates adverse effects. We have imposed conditions which manage the potential for adverse effects on the environment to that end.

83. As discharge activities form part of the application, we note that section 64(1AA)(b) of the EEZ Act precludes an adaptive management approach for marine discharge consents and, accordingly, we have neither considered nor applied such an approach.

84. Our decision acknowledges that adverse effects related to the Māui EAD programme will occur. We find that those effects from planned activities, despite the 30 year duration, will be limited and will not be permanent – including with respect to the seafloor benthic environments, their subsequent recovery, acknowledging that recovery is unlikely to produce an exact replica of the environment that existed before the commencement of the activities. These matters are discussed later in this decision.

85. We acknowledge that the information we received is not entirely free of uncertainties. That is the nature of current science in this environment. It is in that context, for the purpose of environmental protection, that we have imposed a suite of conditions, where appropriate that are designed to avoid, remedy or mitigate adverse effects on the environment that may arise from uncertainty in the information available to us for consideration.

86. Overall, we find that the provisions of section 61(2) of the Act are satisfied, in that any residual uncertainty as to the effects on the environment are addressed by the conditions of this consent as well as the requirements of MMRs – and that includes the potential for cumulative effects arising from the proximity of adjacent drill sites and risks to the identified and as-yet-unidentified, sensitive environments (which we discuss later in this decision).

4.4 Matters to be Taken into Account

87. Section 59 of the EEZ Act sets out matters that we must take into account and have regard to in making our decision. Underlying our consideration of those matters, section 61 of the EEZ Act sets out the requirement for the DMC to base its decisions on the best available information (which we have discussed at Section 4.3.2 of this decision). The matters covered by sections 59 to 61 of the EEZ Act assessed against the decision making objectives in section 10(1) are the basis of our findings as detailed in Section 9 of this decision.

88. Section 59(2) of the EEZ Act sets out matters we “must take into account”, and section 59(3) of the EEZ Act sets out matters we “must have regard to” - which includes any advice, reports or information sought by us, and any advice we received from NKTT and EPA staff.

89. The EEZ Act establishes no hierarchy in the matters that must be taken into account and those that we must have regard to under section 59 of the EEZ Act. The importance of all of the matters listed in all of the subsections depends on the specifics of the proposed activities.

90. We also note that section 59(2)(j) of the EEZ Act requires us to take into account “the extent to which imposing conditions under section 63 might avoid, remedy, or mitigate the adverse effects of the activity”.

91. In that regard we have carefully considered the conditions proffered by OTL, which have been reviewed and commented on in the Conditions Report prepared by Ms Rachel Ducker for the DMC.
4.5 Adoption and Cross-referencing of Material

92. The EEZ Act does not specify the contents of a decision on an application for marine consent, except that section 69 of the EEZ Act states that it must be in writing and contain reasons for the decision. In the interest of avoiding unnecessary repetition, we do not repeat material that is contained in the IA or the various reports prepared by EPA staff, its external experts, and NKTT. Instead, where relevant in this decision, we cross-reference and/or adopt all or parts of the IA and the other reports provided.

93. That does not mean that we have glossed over or ignored any of those matters. We record here that we have carefully reviewed and considered all the documentation before us.

5. Activities subject to EEZ Act Authorisation

5.1 Marine Consent

94. Details of the activities for which OTL is applying for authorisation under section 20 of the EEZ Act are set out in Table 3.

Table 3 - Marine Consent Requirements

<table>
<thead>
<tr>
<th>Section 20(2) Restricted Activity</th>
<th>Applicable Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) the construction, placement, alteration, extension, removal, or demolition of a structure on or under the seabed:</td>
<td>The construction, placement, alteration and removal of temporary structures associated with:</td>
</tr>
<tr>
<td></td>
<td>• Pre-installation works (including seabed surveys and site clearance);</td>
</tr>
<tr>
<td></td>
<td>• Installation of a MODU;</td>
</tr>
<tr>
<td></td>
<td>• Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);</td>
</tr>
<tr>
<td></td>
<td>• Installation of well casing;</td>
</tr>
<tr>
<td></td>
<td>• ROV works and placement of transponders;</td>
</tr>
<tr>
<td></td>
<td>• Well abandonment;</td>
</tr>
<tr>
<td></td>
<td>• Environmental monitoring;</td>
</tr>
<tr>
<td></td>
<td>• Removal of a MODU; and</td>
</tr>
<tr>
<td></td>
<td>• Contingent activities (including pilot hole drilling, re-spudding, and cement disposal).</td>
</tr>
<tr>
<td>(d) the removal of non-living natural material from the seabed or subsoil</td>
<td>The removal of non-living material from the seabed and subsoil associated with:</td>
</tr>
<tr>
<td></td>
<td>• Pre-installation works (including seabed surveys and site clearance);</td>
</tr>
<tr>
<td></td>
<td>• Drilling (including drilling and side-track drilling);</td>
</tr>
<tr>
<td></td>
<td>• Formation evaluation (including WFT and DST);</td>
</tr>
<tr>
<td></td>
<td>• Environmental monitoring; and</td>
</tr>
<tr>
<td></td>
<td>• Contingent activities (including pilot hole drilling and re-spudding).</td>
</tr>
</tbody>
</table>
(e) the disturbance of the seabed or subsoil in a manner that is likely to have an adverse effect on the seabed or subsoil

<table>
<thead>
<tr>
<th>The disturbance of the seabed or subsoil associated with:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pre-installation works (including seabed surveys and site clearance);</td>
</tr>
<tr>
<td>• Installation of a MODU;</td>
</tr>
<tr>
<td>• Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);</td>
</tr>
<tr>
<td>• Installation of well casing;</td>
</tr>
<tr>
<td>• Deposition of drill cuttings and attached drilling fluids;</td>
</tr>
<tr>
<td>• ROV works and placement of transponders;</td>
</tr>
<tr>
<td>• Formation evaluation (including WFT and DST);</td>
</tr>
<tr>
<td>• Well abandonment;</td>
</tr>
<tr>
<td>• Removal of a MODU;</td>
</tr>
<tr>
<td>• Environmental monitoring; and</td>
</tr>
<tr>
<td>• Contingent activities (including pilot hole drilling, re-spudding, and cement disposal).</td>
</tr>
</tbody>
</table>

(f) the deposit of anything or organism in, on or under the seabed

<table>
<thead>
<tr>
<th>The deposition in, on or under the seabed of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pre-installation works (including seabed surveys and site clearance);</td>
</tr>
<tr>
<td>• Installation of a MODU;</td>
</tr>
<tr>
<td>• Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);</td>
</tr>
<tr>
<td>• Installation of well casing;</td>
</tr>
<tr>
<td>• Deposition of drill cuttings and attached drilling fluids;</td>
</tr>
<tr>
<td>• ROV works and placement of transponders;</td>
</tr>
<tr>
<td>• Well abandonment;</td>
</tr>
<tr>
<td>• Removal of a MODU;</td>
</tr>
<tr>
<td>• Environmental monitoring; and</td>
</tr>
<tr>
<td>• Contingent activities (including pilot hole drilling, re-spudding, and cement disposal).</td>
</tr>
</tbody>
</table>

(g) the destruction, damage, or disturbance of the seabed or subsoil in a manner that is likely to have an adverse effect on marine species or their habitat

<table>
<thead>
<tr>
<th>Pre-installation works (including seabed surveys and site clearance);</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Installation of a MODU;</td>
</tr>
<tr>
<td>• Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);</td>
</tr>
<tr>
<td>• Installation of well casing;</td>
</tr>
<tr>
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<tr>
<td>• Removal of a MODU;</td>
</tr>
<tr>
<td>• Environmental monitoring; and</td>
</tr>
<tr>
<td>• Contingent activities (including pilot hole drilling, re-spudding, and deposition of cement).</td>
</tr>
</tbody>
</table>
### Section 20(4) Restricted Activity

**Applicable Activity**

(a) the construction, mooring or anchoring long-term, placement, alteration, extension, removal, or demolition of a structure, part of a structure, or a ship used in connection with a structure

The construction, mooring and anchoring long-term, placement, alteration and removal of structures or part of a structure associated with:
- Installation of a MODU;
- Installation of well casing;
- ROV works and placement of transponders;
- Well abandonment;
- Removal of a MODU;
- Environmental Monitoring; and
- Contingent activities (including pilot hole drilling, re-spudding, and deposition of cement).

(b) the causing of vibrations (other than vibrations caused by the propulsion of a ship) in a manner that is likely to have an adverse effect on marine life

The causing of vibrations associated with:
- Drilling (including drilling, installation of subsea wellhead system, and side-track drilling);
- Formation evaluation (including WFT and DST);
- Well abandonment – cutting of drill casing; and
- Contingent activities (including pilot hole drilling and re-spudding).

(c) the causing of an explosion

The causing of an explosion associated with:
- Contingent activities (including use of explosives).

### 5.2 Marine Discharge Consent

95. Details of the activities for which OTL is applying for authorisation under section 20B of the EEZ Act are set out in Table 4.

#### Table 4 - Marine Discharge Consent Requirements

<table>
<thead>
<tr>
<th>Section 20B Restricted Activity</th>
<th>Applicable Activity</th>
</tr>
</thead>
</table>
| No person may discharge a harmful substance from a structure or from a submarine pipeline into the sea or onto the seabed of the exclusive economic zone | To discharge of harmful substances from a structure (MODU(s)) to the sea, as part of the Māui EAD Programme, in relation to the exercise of PML 381012 including:
- The discharge of production water during testing operations;
- The discharge of trace hydrocarbons;
- The discharge of BOP Fluid;
- The discharge of cement;
- The discharge of drilling fluids;
- Discharges from DST; and
- Other operational discharges. |
5.3 Other Activities associated with the Application

96. There are several “unplanned” activities associated with the Māui EAD programme, described in Section 7.9 of the IA, that do not require marine consent or marine discharge consent under the EEZ Act, but the effects of which need to be considered as part of the overall assessment under section 59(2) of the EEZ Act. These activities include:

(a) Navigational safety and vessel collision incidents;

(b) Fuel spills;

(c) Loss of well control;

(d) Biosecurity incursions;

(e) Dropped objects; and

(f) Operational safety.

97. While the above matters are primarily regulated under other MMRs, we must take them into account in accordance with section 59(2)(h) of the EEZ Act. Consideration of the potential effects of the above matters are provided in Section 8.6 and we address MMRs in Section 9.10 of this decision.

98. As noted earlier in this decision, OTL will be utilising the previously granted marine discharge consent EEZ100014-2 for the discharge of harmful substances contained in drilling fluids and other mining activities by way of the MODU deck drains, subject to the application for variations to that consent being approved.

99. The Māui EAD Programme also includes activities that are classified as permitted under the Exclusive Economic Zone and Continental Shelf (Environmental Effects—Permitted Activities) Regulations 2013 (Permitted Activity Regulations). These activities are permitted pending compliance with a number of conditions and notifications. Where appropriate, these activities are described in this Consent Application for completeness.

Project and Context

6. Description of Activities

6.1 Introduction

100. The activities associated with the Māui EAD programme are divided into those which are planned to occur, which includes a number of contingency activities, and also activities which are unplanned (but could potentially occur). For the avoidance of doubt, OTL’s application only covers those planned and contingency activities which are restricted by section 20 and section 20B of the EEZ Act.

101. While OTL has not applied (and is not required to apply) for consent of unplanned events (such as loss of well control and accidental oil spills), such events and their associated effects have the potential to arise directly from the restricted activities for which marine consent and marine
discharge consent is sought. Those effects are, therefore, properly considered an adverse effect of low probability that has a high potential impact (as defined in section 6 of the EEZ Act).

102. These activities are summarised in the following sections.

6.2 Planned Activities – Marine Consent

6.2.1 MODU Description

103. Section 3.2.1 of the IA describes the different types of MODUs that may be used in the Māui EAD Programme and states that they will be either a jack-up MODU, a semi-submersible MODU, or a drillship MODU.

104. As noted in paragraph 13 above the COSL Prospector, a semi-submersible MODU, will be used to drill at least the first exploration well (Māui-8) of the Māui EAD Programme. This MODU has been used throughout the IA as an example of the typical operations and systems on board the vessels; however, the use of other MODUs is provided for in the application.

105. A brief summary of the various MODUs is provided below:

(a) Jack-up MODU (refer to Sections 3.2.1.1, 3.2.3.1 and 3.4.2.1 of the IA):

i. Suitable for shallow waters of around 100-120 m, and used previously in the Taranaki basin;

ii. A buoyant hulled structure which holds all of the drilling equipment;

iii. Moved into the drill location by support vessels and pre-loaded with intake ballast water;

iv. Typically has 3 or 4 movable legs which attach to the seafloor and, once in place and preloading has occurred, jack up the structure out of the water above the wave, tidal and current loadings;

v. The placement of each leg on the seafloor disturbs approximately 200 m² per leg (up to 800 m² for a four legged MODU); and

vi. Permanently in place for the duration of the drilling activity.

(b) Semi-submersible MODU:

i. Able to operate in a wide range of depths and well-suited for Taranaki Basin where used in many drilling programmes;

ii. A structure supported by columns attached to pontoons that float in the water and support the hull;

iii. Relies on ballasting to raise and lower the structure in the water to control the height of the main deck above the sea surface and to maintain MODU stability;

iv. Some semi-submersible MODUs can be dynamic positioning (DP) or use a combination of DP and anchors, chains and wires;
v. Anchorable DP MODUs are a recent advance in this technology. The *COSL Prospector* is such a structure; however, OTL propose only to deploy anchoring technology in the shallow waters of the Taranaki Basin;

vi. Subject to operational weather limits based on the specific MODU/support vessel and its operating range and will be covered within the relevant Safety Case;

vii. Utilises eight to 12 anchors, complete with mooring chains and wires, to hold the MODU in place, laid by support vessels and attached to the MODU once laid;

viii. When using anchoring, the seabed disturbance is directly related to the size of the anchors and mooring chain and wire, and is summarised as:

1. Anchors have a maximum surface area of 30 m² (up to 360 m² for a 12 anchor MODU);
2. Drag distance for each anchor ahead of final positioning is approximately 510 m² per anchor;
3. Approximately 1,067 m² of mooring chain and wore is laid on the seabed for each anchor which equates to approximately 813 m² per mooring line;
4. Based on a 12 anchor MODU anchored in 110 m of water, the total approximate area of seabed disturbance is 16,236 m².

(c) Drillship MODU:

i. A vessel specifically designed for use in offshore drilling. Such vessels have been used in previous Taranaki Basin drilling campaigns;

ii. Held in position by way of an anchoring array or through DP;

iii. An anchored drillship MODU will utilise an anchoring array that will be no greater than that used by a semi-submersible MODU and, as such, the area of disturbance will be no greater than the maximum area identified above being 16,236 m².

106. While in use, the MODU will be in location for between 50 – 90 days, with the duration being dictated by the success case and well testing. OTL state that a 90-day success case has been utilised where required for assessment purposes.

107. Section 3.2.10 of the IA describes how following the completion of the well abandonment at each well location, the MODU would be removed from the site. Where not self-propelled, the MODU would be towed to the next location. The use of any other MODU which attaches to the seabed requires marine consent for the installation and removal activities. Once any legs, chains or anchors are removed from the seabed the MODU, if not self-propelled, will be wet-towed to its next drilling location. The *COSL Prospector*, the MODU contracted to drill Māui-8, is a self-propelled MODU.

### 6.2.2 Pre-Drill Works

108. Section 3.2.2 of the IA describes the works to be undertaken before the installation of a MODU to ensure that the seabed is suitable.
109. Section 7.4.1 of the IA notes that several of the pre-drill activities such as multi-beam sonar, side-scan surveys, and shallow seismic surveys can be undertaken without the need for consent under the Permitted Activity Regulations, and we agree that is the case. Therefore, these activities do not form part of the marine consent application.

110. The pre-installation works that require marine consent include:

(a) Physical seabed surveys (refer to Section 3.2.2.1 of the IA) to determine the nature of the sediment – this work may include coring or cone penetration testing and would be undertaken from a vessel that does not require anchoring (excluding emergency situations) utilising standard industry equipment that is lowered to the seabed and powered by the vessel using either electrical or hydraulic means. The area of disturbed seabed is minimal due to the small size of the coring or testing tool; and

(b) Site clearance (refer to 3.2.2.2 of the IA) should there be anything anthropogenic that needs to be removed – this would be undertaken using a ROV and involves moving the object(s) to another location on the seabed to a suitable distance where it will not affect the consented activities.

6.2.3 Drilling, Casing Installation, and Drill Cutting Management

111. Section 3.2.4 of the IA describes how drilling of the wells will occur. Section 3.2.5 describes how well casing is installed, and Section 3.2.6 describes the deposition and management of the drill cuttings. We do not repeat that information here; however key features are summarised as follows:

(a) Up to 10 wells may be drilled, with water depths and locations of the first three exploration wells identified in Table 8 of the IA;

(b) If a discovery of commercial volumes of hydrocarbons is made in the first three wells, up to seven additional wells could be drilled; as such these seven well locations are dependent on the outcomes of the three initial exploration wells;

(c) Drilling depths will vary but are expected to be between 3,400 m and 3,900 m true vertical depth (TVD);

(d) Detailed engineering dictates drill hole diameter. This may result in diameters up to 1.07 m at the top of the hole down to 15.2 cm at TVD. Based on previous drilling activities, OTL states that the MODU is likely to be drilling for approximately 40% of the time while on location.

(e) The top large diameter hole is first drilled to the desired depth into which a conductor is installed and a permanent guide base is then installed on top of the conductor. The conductor is cemented in place;

(f) The well hole is then further extended, when using a riser drill hole configuration, to allow placement of the surface casing string. The casing string is then installed and cemented inside the conductor;

(g) A BOP and lower marine riser package (LMRP) is installed on top of the wellhead and riser (large diameter vertical pipe) then connects the wellhead to the MODU (generic examples of the different well housing and risers are shown in Figures 10 and 11 of the IA);
(h) OTL states that they will ensure that suitable wellheads are used so that anchors do not need to be placed on the seabed specifically to support the BOP;

(i) Once the riser is installed and a complete circulation system between the drill bit and the MODU is established, an engineered drilling fluid will be used that is a mixture of water, clay (bentonite) and barite, together with small quantities of minerals and chemicals to optimise drilling safety and performance;

(j) Drilling fluids (a.k.a. muds) are circulated on the MODU and are mixed, stored and treated in tanks until the desired properties (e.g. density and viscosity) are achieved. Drilling fluids are fed below the drill string, out the drill bit, into the well;

(k) The drilling fluid carries the cuttings from the bottom of the hole up the wellbore to the MODU. The cuttings are then separated from the drilling fluid through a series of vibrating screens (shale shakers) and are transferred into a ‘cuttings ditch’ where samples are taken for geological inspection and analysis or preserved to meet regulatory requirements. The remaining cuttings are flushed with sea water into the ocean. The drilling fluid flows through the vibrating screens and is returned to the tanks where its properties are measured. If necessary, additional drilling fluid chemicals are added to maintain the desired properties before it is reused;

(l) Water-based mud (WBM) will be used wherever possible; however, at times, synthetic-based mud (SBM) may need to be used. Section 3.3.2 of the IA states that where SBM is used associated cuttings will be collected onboard the MODU and transported to shore for disposal at an approved facility;

(m) WBM is a mixture of water and clay (bentonite) together with small quantities of minerals and chemicals that optimise drilling performance and safety. Barium (as barite) is the most abundant metal constituent within water based mud;

(n) Drill cuttings are separated from the drilling muds on the MODU, however small amounts of drilling fluids may adhere to the cuttings which are discharged into the sea. The discharge of any harmful substances associated with drilling fluids requires marine discharge consent under the D&D Regulations and is included as part of this application;

(o) The volume of drill cuttings (ground up rock produced as the well is drilled, ranging from a size of 10 cm to 2 cm, with their texture ranging from clay to gravel) varies depending on the length and depth of the well. While the depth and design of each well will vary, based on the Māui–8 well design and anticipated 3,920 m TVD, the maximum volume of cuttings is approximately 532 m³ with an additional 517 m³ if re-spudding is required, equating to a maximum of 1,049 m³ for each well location. Of this volume, approximately 415 m³ will be released at the surface and the remainder near the seabed (refer to Table 13 of the IA);

(p) Drilling fluid calculations in Appendix E of the IA estimate that up to 24,539 barrels (bbl) of drilling fluid could be needed to complete a well. Of this volume, approximately 90-95% will be water. The drilling fluid circulation system is designed to recycle as much of the drilling fluids as possible.
(q) When drilling commences cuttings are deposited directly on the seabed adjacent to the hole but once the BOP, LMRP, and riser are installed the cuttings (except those kept for laboratory testing) are discharged overboard from a pipe located at least 5 m below the lowest astronomical tide;

(r) As each section of a well is completed, a casing or liner is installed and cemented into place to prevent well collapse. The cement is pumped to the bottom of the casing and is pushed up the outside of it into any fractures in the surrounding rock;

(s) On completion of cementing, small amounts (up to 3 m³) of cement wash-water from the cement tanks on the MODU may need to be pumped overboard before it hardens. This process will occur over a 30 minute period until the cement unit to cleaned;

(t) Small amounts of cement dust may be discharged from the MODU as a result of handling dry material but, while minimal, quantities cannot be confirmed given the nature of the discharge; and

(u) Small amounts of steel and polymer may be removed from the well during drilling, with the majority of this material then separated out during the processing of cuttings and disposed of onshore. However, residual amounts may be deposited on the seabed along with drilling cuttings.

112. As described in Section 3.2.4.2 of the IA, in addition to vertical drilling, side-track drilling may also occur where a down-hole obstruction is being by-passed or to investigate and collect information from a different part of the subsurface target. The side-track hole uses the existing surface and seabed equipment and part of the previously drilled original borehole.

113. Where the Māui EAD Programme discovers a significant column or columns of hydrocarbon, a short-offset side-track hole may be drilled to acquire cores, and the length of the side-track borehole is dependent on multiple factors including thickness of the reservoir, depth of the kick-off point in the original borehole, and the need to drill deeper than achieved in the downhole bore.

114. Where coring is undertaken, the IA states that it is designed to recover solid sections of the subsurface rock strata, and the volume of cuttings returned to the surface during the coring process is substantially reduced compared to conventional drilling. Allowances have been made for the different type of drilling activities in the Drill Cutting and Dispersion Modelling undertaken to inform the IA.

115. Overall, the actual drilling process only comprises about 40% of the time that the MODU is on location.

6.2.4 ROV Works and Transponder Placement

116. Section 3.2.7 of the IA describes how ROVs will be used to support the drilling activities and will result in small areas of seabed being disturbed, including: placement of ROV baskets which contain tools, clump weights and sandbags. The ROV work baskets typically occupy approximately 5 m² of the seabed and the ROV, if it is to be placed, has a footprint of approximately 6 m².

117. Up to four transponders (approximately 105 mm in diameter) may also be placed on the seabed to mark the top hole location at each well, each transponder being held on the seabed by small clump weights, with the four clump weights for each location occupying a cumulative area of up to 4 m².
118. The transponders, clump weights, and ROV work baskets will be removed when clearing the site as part of the removal of the MODU.

6.2.5 Formation Evaluation

119. Section 3.2.8 of the IA describes the range of formation evaluation techniques that will be undertaken on each well to provide geological information to assess the presence of ‘moveable product’ within the targeted reservoir sections of the wells, the quality of reservoirs encountered, and petrophysical properties of the drilled section. This evaluation process has the potential to run for several hours or days depending on the productivity information required. Not all the formation evaluation activities (i.e. mudlogging and logging while drilling) require marine consent. Those that do are:

(a) WFT which involves collecting samples of formation fluids; and

(b) DST which is a procedure for isolating and testing the pressure, permeability, and productive capacity of a geological formation once the well has been drilled.

6.2.6 Well Abandonment

120. Section 3.2.9 of the IA describes how each well on completion will be permanently plugged and abandoned in compliance with Regulation 61(1)(b) of the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016, which involves:

(a) Providing notice to appropriate parties of well abandonment;

(b) Pumping heavy mud and cement plugs inside the well to ensure no unplanned escape of oils or fluids from the well;

(c) Once the cement is hardened and tagged, cutting of the surface casing approximately 1.5 m below the seabed using an ROV;

(d) After the cutting, the wellhead and components are retrieved to the supporting vessels;

(e) A ROV surveying the seabed to assess effectiveness of hazard removal from the well location; and

(f) Finally, a well abandonment report will be provided to New Zealand Petroleum and Minerals, as required under regulation 47 of the Crown Minerals (Petroleum) Regulations 2007.

6.2.7 Environmental Monitoring

121. Section 3.2.12 of the IA describes the pre-and post-drill benthic monitoring to be undertaken as part of the Māui EAD programme, the purpose of which is to monitor for effects from the drilling activity on the benthic marine environment and the subsequent monitoring of recovery.

122. An Environmental Monitoring Plan (EMP) was submitted with the IA which outlines the proposed monitoring approach to be undertaken prior to and after drilling each well. OTL state that the EMP design is consistent with the document entitled “Recommendations for an Offshore Taranaki Environmental Monitoring Protocol: Drilling and production-related discharges” (OTEMP), being a protocol developed through consultation with the oil and gas industry, MNZ, and the EPA. However, OTEMP was last updated in 2014, prior to OMV’s last drilling programme in the Taranaki Basin, and
some of the methodologies and aims of the monitoring hypotheses within OTEMP have now been refined within the current EMP.

123. Under the EMP, OTL will prepare a Well-Specific Monitoring Programme (WSMP) for each well location, based on the modelled zone of influence of the drill activities and include a number of monitoring stations at set distances along the major and minor axes of drill cutting deposition for each well. Each WSMP will be included as an appendix to the EMP and will be submitted to the EPA for certification prior to any activities commencing.

124. The EMP, provided as Appendix B of the IA, includes the WSMP for the Māui-8 well. For clarity, as stated in section 7.4.4.2.2 of the IA, the pre-drill monitoring activities for Māui-8 will be authorised under the Permitted Activity Regulations and do not form part of this application.

125. Benthic monitoring will involve the use of deep-towed video systems and also benthic survey multi-corers and box corers. The benthic survey equipment will result in a small area of disturbance of the seabed and a small volume of non-living material will be removed from the seabed for sampling purposes. As the video sled is held approximately 2 m above the seabed, it poses little threat to seabed habitats/communities and will not result in any direct disturbance.

126. Each grab sample disturbs an area of approximately 0.21 m$^2$ of seabed and removes approximately 0.026 m$^3$ of sediment. The collection of triplicate samples during a ‘typical’ monitoring programme (e.g. 21 sample stations) will disturb approximately 13.23 m$^2$ of seabed and remove approximately 1.62 m$^3$ of sediment per well location. However, a large proportion of the sediment removed by the multi-corer is not retained (due to sub-sampling and sample sieving) and is deposited back over the side of the survey vessel close to where it was collected.

127. In addition to the benthic grab sampling, either a video sled tow or an ROV will be utilised to obtain semi-quantitative epi-benthic data through video imagery, with each operation planned to cover approximately 200 m of horizontal distance across the seabed. This will result in approximately 1.2 km of seabed being assessed around each well location and based on the deployment of six video sled tows, the approximate distance covered and area of sled in contact with the seabed, a total of approximately 92 m$^2$ is disturbed per well location.

128. Benthic imagery transects will also be undertaken at each of the proposed anchor locations during the pre-drill survey to determine whether any sensitive environments are present. Additional observations of the benthic environment and the more mobile taxa (such as fish) that are observed will also be recorded.

129. Pre-drill monitoring will be undertaken within 6 months of commencement of drilling operations.

130. Post-drill monitoring will be carried out annually for up to three years following the completion of drilling activities, with the post-drill results compared to those of the pre-drill survey in order to assess the potential environmental effects following drilling activities, and to track the recovery of benthic communities and sediments over time. In order to allow direct comparisons, pre and post-drill monitoring will be carried out following a standard procedure at the same sampling stations and in the same season each year to reduce any seasonality influences.
6.2.8 Contingent Activities

131. Section 3.2.13 of the IA notes that OTL needs to have the ability to adapt to the conditions present at the well sites at the time of drilling, and a number of ‘contingent’ activities may also be required to be implemented in exceptional circumstances.

132. Pilot hole drilling, re-spudding, the use of explosives, and cement disposal are not planned as part of the Māui EAD programme but may need to be used as a last resort response to unavoidable complications relating to the drilling of any particular well. For the avoidance of doubt, OTL seeks authorisation to undertake these contingent activities.

133. The IA notes that pilot hole drilling involves drilling a smaller-diameter hole through a zone of interpreted sub-surface risk (for instance, shallow gas or shallow water flow) – this smaller hole is easier to control. Once the risk is managed, the pilot hole is opened up to the required hole size before drilling carries on.

134. If any of the wells have to be abandoned before they reach their target depth, the well may have to be re-drilled. This is referred to as a “re-spud”. Re-spudding involves the re-drilling of a well near the original well location. The re-spud will be approximately the same well design as the initial well but will take into account all factors that led to the original site being abandoned. Re-spudding generally occurs within 100 m of the initial well location. The detailed pre-installation survey will cover a sufficiently broad area around a drilling location to allow for potential re-spudding, even though the likelihood of such re-spudding being required is low.

135. If a re-spud occurs during the Māui EAD Programme, the volume of drill cuttings will increase based on the duplication of drilling activities and, in the worst-case scenario, where a well needs to be re-spudded having drilled down to a point just above the primary exploration target depth, the maximum predicted volume of cuttings duplicated will be approximately 517 m³. The total combined volume of 1,049 m³ was used in the IA for assessment of effects.

136. OTL confirmed that the MODU may be able to re-spud without repositioning. However, if re-positioning is required there may be additional seabed disturbance, depending on the type of MODU used.

137. The IA states that explosives (such as directional charges) may be required for various sub-surface applications such as:

(a) To free the drill string in the event that it gets stuck;

(b) To perforate to allow the placement of remedial cement if the cement behind the casing is lost; or

(c) To assist in the removal of the wellhead in the event it cannot be removed as planned.

138. Any use of explosives is a contingency and will be designed by a specialist to ensure an appropriate solution given the particular circumstance and situation.

139. While it has not occurred on any OTL drilling campaigns in New Zealand previously, on very rare occasions cement batches may be prepared but are unsuitable for use (e.g. the cement is not weighted or set correctly) and the full batch of approximately 10 m³ of cement must be discarded. Unused or faulty cement is required to be immediately pumped out of the tanks and discharged.
overboard to prevent it from hardening within tanks, pumps and pipelines. The disposal of cement will result in it being deposited on the seabed.

6.3 Planned Activities – Marine Discharge Consent

6.3.1 Introduction

140. Section 3.3 of the IA describes the discharge activities which form part of the Māui EAD Programme and that require marine discharge consent under section 20B of the EEZ Act. Various harmful substances that will be discharged through the drilling process are associated with the:

(a) Discharge of BOP fluid;
(b) Discharge of drilling fluids;
(c) Discharge of excess cement;
(d) Discharge of trace hydrocarbons;
(e) Discharge from DST; and
(f) Other operational discharges.

A full list of the harmful substances that may be used are provided in Appendix C (Harmful Substance Register) of the IA.

6.3.2 Discharge of Blowout Preventer (BOP) Fluid

141. Section 3.3.1 of the IA describes the discharges associated with BOP fluids.

142. A BOP is a safety device that is used to prevent the uncontrolled flow of liquids and gases during well drilling operations and is capable of being remotely controlled. When the driller closes the BOP, a pressure-tight seal is formed at the top of the well preventing the fluids from escaping.

143. BOP hydraulic fluid will periodically be discharged as part of the operation and testing of the BOP and any discharge of BOP fluid will occur from the BOP at the seafloor.

144. BOP fluid proposed for the Māui EAD Programme will be primarily water-based with the addition of other substances (including dyes); however, the majority of the other substances are not classified as harmful. The exact makeup of the substances in the BOP fluid will depend on the sea temperature but may include a harmful substance like Erifon HD 603 HP ND which is classified as 9.1C (refer to Table 14 of the IA).

145. A small amount of BOP fluid will be discharged every time a component of the BOP functions, with function tests (approximately weekly) and BOP tests (at least every 21 days) involving a large number of components, and therefore a greater volume of fluids discharged. It is estimated that a total of approximately 2,333 L of harmful substance (Erifon HD 603 HP ND) contained within the BOP fluid will be discharged per well over the expected maximum 90-day success case period at each well location.

146. As the exact volume of discharge that occurs each time the BOP is functioned is unknown, two discharge scenarios were used for the zone of influence calculations being:
(a) A conservative assumption of the combined mass of BOP fluid discharged each day resulting from the small releases occurring every time a component of the BOP is functioned is approximately 26 L of the harmful substance (Erifon HD 603 HP ND), a maximum of 4% used over 90 days; and

(b) For the BOP tests when the larger discharges occur, up to 1,000 L of BOP fluid could be utilised. Likewise, the 1,000 L is also considered to be a conservative volume and has been based on previous drilling programmes in New Zealand waters. This also equates to 4% of the total volume of the discharge being the hazardous substance.

147. The Safety Data Sheet (SDS) for Erifon HD 603 HP ND does not include information on its solubility in water. However, it is readily degradable, which will assist in the dispersion within the water column, and its density is similar to water, which will allow the discharge to disperse readily in the receiving environment.

6.3.3 Discharge of Drilling Fluids

148. Section 3.3.2 of the IA describes the discharge of drilling fluids (a.k.a muds) that may be used during the Māui EAD Programme. Drilling fluids have many purposes including providing a well control barrier, preserving wellbore stability, minimising formation damage, transporting drill cuttings to the surface, cooling and lubricating the drilling components, and providing information about what is happening and being encountered down hole.

149. Drilling fluid used prior to the installation of the drilling riser is typically either sea water with bentonite sweeps for hole cleaning, or a mixture of water and bentonite. All drilling fluids used for drilling prior to the installation of the riser will be lost at the seabed, other than some potentially lost downhole to the reservoir formation.

150. Primarily WBM will be used. However, at times, synthetic-based muds may also be required. In the event that SBM is used, affected cuttings will be collected, transported to shore and disposed of at an approved facility. Barium (as barite) is used as a mud weighting agent and is the most abundant metal constituent within WBM.

151. The monitoring programme is designed to detect elevated barium in the drill cuttings to determine the extent of drill cuttings and WBM deposition, and to assess potential seabed chemistry effects from the discharge of drill cuttings and WBM.

152. The drilling fluid circulation system is designed to recycle as much of the drilling fluid as possible in order to reduce the need to discharge drilling fluid. However, in some instances a batch discharge of drilling fluid may be required.

153. The discharges from the drilling fluid system include:

(a) Continuous discharge of the drilling fluid which is attached to the drill cuttings while drilling – to be discharged directly from the MODU into the ocean;

(b) Batch discharge of drilling fluids when required mud properties cannot be maintained e.g. mud weight, viscosity etc.; and
154. All of the discharges would occur directly from the MODU, whether it is above or below the sea surface depends on the configuration of the MODU.

155. The discharge volumes and frequency depend on multiple factors for each of the discharge activities and the well locations. Due to those uncertainties the IA states that the total volume of drilling fluids to be discharged as continuous or batch discharges for each well in the Māui EAD Programme is 1,040 t of constituent materials equating to approximately 24,539 bbl of drilling fluid. This is considered 'worst case' as it is in OTL’s commercial interest to capture and re-use as much of the drilling fluid as possible for drilling subsequent wells, and the estimated volumes for each substance have been calculated on an over-sized well.

156. Only a small portion of the volume of drilling fluids is classified as harmful under the D&D Regulations. The substances within drilling fluids that meet the definition of harmful substances are listed in Table 15 of the IA. The composition of the drilling fluid proposed to be used during the Māui EAD Programme is predominantly water (~95%), with the remainder of the constituent substances composed primarily of barite and bentonite (approximately 54.8%) and salts (Potassium Chloride and Sodium Chloride – approximately 15%). Additional chemicals are added for various purposes (e.g., to regulate pH).

157. Up to 1,040 t of drilling fluid components may be discharged over the duration of each well. Not all 1040 t of drilling fluid constituents will be stored on the MODU at the same time, as they will be brought on board from the support vessel when required. Of this total mass, only a small proportion (approximately 5.35%, or 55.6 t) is considered harmful in the aquatic environment.

158. As any discharge will primarily be water, OTL states that the discharge plume is likely to have a high density compared to the surrounding seawater, such that the plume of discharged material will likely fall quickly towards the seabed, pulling lighter materials in the plume downwards as well. Due to the density of the chemicals in the discharge, they are likely to remain within a sinking plume and mix with surrounding seawater as the larger plume mixes, rather than coalescing to form a separate plume that behaves independently.

159. Most materials in the plume will fall to the seabed within a short horizontal distance from the discharge point, with currents pushing them along the predominant current flow. Upon reaching the seabed the plume would spread out across the seabed, also moving with the predominant current.

6.3.4 Discharge of Excess Cement

160. Section 3.3.3 of the IA describes the discharge of excess cement as a result of the Māui EAD Programme. Cement is used to secure the components of the wellhead in place using a cement stringer (usually 3 - 4-inch drill pipe) to pump cement at the bottom of the conductor until cement returns are visible at the seabed (also known as the mudline). This results in a discharge of excess cement to the seabed of approximately 3 m³. This process is then repeated for the surface casing. Cementing is also used during well abandonment.

161. Although the volume of cement required for each well casing is carefully calculated to minimise the amount of cement left on the MODU, any excess cement that remains in the cement tank will need to be pumped overboard immediately before it hardens. Once cementing operations are complete,
the system will be washed, with up to 3 m$^3$ of wash-water per well section. This wash-water is discharged overboard through the hull of the MODU.

162. At the completion of the drilling campaign (i.e. once the last well has been abandoned and before the MODU is handed over), all dry non-harmful bulk cement material remaining on board may be mixed to a watery slurry for disposal to sea. However, as the bulk cement contains no harmful substances, its discharge does not require authorisation under section 20B of the EEZ Act.

163. Discharges will occur both downhole on to the seabed at the well locations, and overboard from the MODUs either above or below the sea surface.

164. While a worst-case scenario of 6 m$^3$ per well has been used, the mass of harmful substance that could enter the marine environment from the discharge of excess cement is less than that actually present in the 6 m$^3$ of cement as the cement would solidify quickly, halting the ability for harmful substances within the cement to disperse/discharge into the water column/sediment.

165. Discharges will typically occur twice per well drill, but where re-spudding is required, an additional two discharges will occur.

166. On completion of any cementing operation, the system will be washed with up to 3 m$^3$ of wash-water and discharged overboard. It is estimated that this discharge will be >95% water and the discharge will occur over approximately 30 minutes until the cement unit and topside pipework is cleaned sufficiently. This may occur up to five times per well.

167. There may be very rare situations, such as a contingency activity, where an entire cement batch is required to be discarded. This will only occur if there is an error in the cement mixing process or if there is a mechanical failure during the pumping of the cement. If this situation occurs, up to 10 m$^3$ of cement will need to be pumped out of the tanks and discharged overboard to prevent it from hardening within the tanks, pumps, and pipework.

168. Regarding hazardous substances in the discharges, OTL has selected cement products that are the least ecotoxic while still being technically capable of performing the required role. These have been identified in Table 16 of the IA.

169. The composition of cement proposed for use in the Māui EAD Programme is primarily a non-harmful mixture (approximately 62%), with the majority of it containing ‘Portland Cement’ (a lime/clay mixture which is similar to that used for typical residential purposes) combined with other chemicals for various uses (including cement additives, viscosifiers and defoamers).

170. Due to the high concentration of cement and additives such as bentonite in the preparations, the surface discharged cements are likely to have high densities and the majority of the discharge will sink quickly towards the seabed.

6.3.5 Discharge of Trace Hydrocarbons

171. Section 3.3.4 of the IA describes the discharges of trace hydrocarbons when drilling.

172. Trace discharges have the potential to occur through the hydrocarbon-bearing rocks when small quantities of liquid hydrocarbons can enter the drilling fluid system, causing trace amounts of hydrocarbon seen up at the MODU entrained in circulated drilling fluids or bound with cuttings.
173. The discharges will occur where drilling fluids or cuttings containing hydrocarbon bearing rocks are discharged from the MODU either above or below the sea surface as part of the drill cuttings processing.

174. The discharge of trace hydrocarbons will, at most, only occur within a small portion of the drilling activities (i.e. while drilling through the hydrocarbon-bearing reservoirs if these are encountered during the drilling). Hence, this small volume of discharge will only occur for a short period of time relative to the overall drilling operation, likely near the end of the physical drilling phase.

175. The composition of the drilling cuttings discharges has been discussed in Section 6.3.3 above, but any trace hydrocarbon discharge will be contained within the drilling fluid, and it will be only a very small component of the discharge.

6.3.6 Discharge from Drill Stem Testing

176. Section 3.3.5 of the IA describes the discharges from the DST process that occurs if a hydrocarbon discovery is made in an exploration or appraisal well, in order to gather data to estimate the productivity of a geological formation. The main purpose of the DST is to verify the flow properties and flow profiles of hydrocarbons in the reservoir, and a DST will only be conducted in a success-case scenario, and even then, only in some wells.

177. Where a well is drilled and a hydrocarbon-bearing zone is encountered, perforating instruments are lowered into the well to the hydrocarbon-bearing interval and fired electrically to pierce multiple holes through the liner into the reservoir. These perforations create pathways by which the reservoir fluids can flow into the wellbore, simulating a production scenario.

178. Hydrocarbons flow up the wellbore through the test string to a test package on the MODU, where samples are collected for analysis, and the remainder are diverted to the flare booms where they are combusted. A DST can run for several hours or days, depending on the productivity information that is required.

179. The flare boom burner heads are specifically designed to ensure that the hydrocarbons burn in the most efficient manner to ensure that fall-out is limited as far as is possible and to provide the greatest possible degree of complete combustion. OTL states that smokeless fallout-free flare technology will be specified for the Māui EAD programme.

180. There are two possible discharge streams that may contain harmful substances as part of DST operations:

(a) During flaring activities in which small amounts of harmful substances may fall out from the combustion process and settle on the surrounding ocean; and

(b) Through the well clean-up process where harmful substances may be included within a brine solution.

181. Five harmful substances (including the reservoir hydrocarbon itself) have been identified (refer to Table 17 of the IA) for discharge across these two discharge streams - four substances, in trace amounts to the surrounding ocean, as fallout from the combustion, and one from the well clean-up which involves displacing the wellbore fluid. A small percentage of this solution may be a harmful substance which cannot be separated and recovered and will be discharged overboard to the surrounding marine environment.
182. For flaring, the volume of hydrocarbons discharged as part of the DST is directly related to the volume produced in each well. The IA estimates, based on a maximum oil production of 18,050 stock barrels per well, that a total of 0.0138 m$^3$ (0.078664 bbl or 13.8 L) of oil, over the flowing period of approximately 127 hours (5.3 days) total, allowing for up to three hydrocarbon-bearing zones to be tested. The burner used as part of the flaring operation is described as having a 99.99952% flare efficiency, which may result in trace amounts (i.e. 0.00048%) of fallout of harmful substance (including any hydrocarbons flowed from the formation) settling on the ocean surface.

183. For well clean-up, the worst-case scenario would be 1,600 L of harmful substance (Baraklean-926), which equates to approximately 12.6% of the discharge being harmful, within an 80 bbl clean-up pill comprising of seawater. At the end of the clean-up process the well will be displaced with brine. The 80 bbl clean up pill that will then be discharged will be comprised of 10 bbl Baraklean and 70 bbl of seawater. The properties of Baraklean on its SDS state that it is dispersible and emulsifies (Appendix D of the IA). With these characteristics, the 80 bbl discharge plume is expected to disperse and mix rapidly within the upper layers of the water column.

### 6.3.7 Other Operational Discharges

184. Section 3.3.6 of the IA describes the other operational discharges that may occur as part of normal planned operations, including:

(a) Lubricant for tool joints, drill collars, wellhead and riser connectors – up to 10% may be located outside of the drill string and exposed to the ocean. Discharges will occur at varying depths within the water column down to and at the seabed;

(b) Anti-foulant for cooling systems - Due to the potential risk of biofouling, an antifoulant chemical is added to the seawater cooling system to prevent marine growth within the piping system. Under normal operations, the anti-foulant chemical mix will flow through the cooling system and be discharged overboard. Discharges will occur at various locations either above or below the sea surface depending on the configuration of the specific MODU; and

(c) Cleaning the slop handling unit on the MODU - Programmed washing cycles to clean the membranes and internal components using washing water and some substances that are classified as harmful. Discharges will occur at various locations either above or below the sea surface depending on the configuration of the specific MODU.

185. The likely harmful substances to be contained within these three discharges are identified in Table 18 of the IA.

186. Regarding discharge volumes for lubricants, the discharge of harmful substances will be small, ranging from 3 kg to 10 kg per well for each of the lubricants used.

187. Regarding discharge volumes for anti-foulant water, approximately 13.7 L of anti-foulant will be discharged daily while the MODU is in operation, or 1,233 L in total per well. Based on information provided for the COSL Prospector, the maximum volume of cooling seawater containing the anti-foulant that will be circulated per day is $\sim$32,400 m$^3$.

188. Regarding discharge volumes for the slop handling unit, it is estimated that there will be 134 L of cleaning fluid, excluding seawater, discharged per well, with the frequency of the discharge taking place when required.
189. The composition of the discharges will be primarily seawater, either through the gradual release from the lubricants situated in the water column, or from the seawater cooling system or the slop treatment unit cleaning process.

190. Apart from the anti-foulant substance (Bioguard Plus), the harmful substances discharged as part of these other operational activities will sink upon entering the ocean, based on the information provided within the SDS. As the discharges are of small volumes over the course of the drilling operations, the respective zones of influence are small.

191. The IA concludes that operational discharges are generally small, required to ensure safe operation of the MODU and only used sparingly to minimise discharges. As such there are no other alternatives.

6.3.8 Unplanned Events – Marine Consent and Marine Discharge Consent

192. Unplanned activities are those that are non-routine (not expected to occur) and do not constitute activities for which OTL is seeking marine consent. These are activities that are not covered under section 20 of the EEZ Act. The IA identifies unplanned activities as including:

(a) Oil spill from loss of well control (discussed in Section 7.9.1 of the IA);
(b) Fuel spill from refuelling operations (discussed in Section 7.9.2 of the IA);
(c) Vessel collision (discussed in Section 7.9.3 of the IA);
(d) Biosecurity incursions (discussed in Section 7.9.4 of the IA); and
(e) Dropped objects (discussed in Section 7.9.5 of the IA).

7. Description of the Physical Environment

7.1 Existing Physical Environment

193. Section 4.1 of the IA summarises the physical environment of the AOI in terms of its meteorology, air quality, currents/waves, sea temperatures, water quality, bathymetry / geology, noise, and seafloor sediment characteristics. We have reviewed that information, accept it as a reasonable description, and adopt it for the purposes of our decision. Therefore, we do not repeat that material here. However, key summary points from Section 4.1 of the IA are:

(a) The AOI is located in the ‘South-west North Island’ climate zone which is windy relative to other regions and has few climatic extremes. Within this climate zone, the most settled weather occurs in summer and early autumn, with winter being the most unsettled time of the year.

(b) Prevalent winds at Māui Platform Bravo (MPB), located within the AOI, are from the W-WSW and SE, with little seasonal variation (refer to Figure 19 of the IA). Winds from the NNE through to W are also relatively common while winds rarely blow from S or E-NE directions. The expected extreme wind speeds range from 30.5 m/s to 40 m/s (1-year and 100-year return periods, respectively).
(c) Periods of high rainfall occur in Taranaki when a slow-moving anticyclone lies to the east of New Zealand, allowing warmer moist northerly air from the tropics to flow over the country. Heavy rain can occur if these conditions are associated with slow-moving fronts lying north-south near Taranaki, or when depressions move across the region.

(d) While there is no specific rainfall data for the AOI nor is there any monitoring equipment on offshore installations in the South Taranaki Bight, rainfall statistics were accessed from Taranaki Regional Council for their site ‘Kapoaiaia at Lighthouse’, located on the coast approximately 35 km north-east of the AOI. The mean annual rainfall (for the period 1930-2019) at this site is 1,388 mm, with mean monthly totals ranging from 87 mm to 149 mm (refer to Table 20 of the IA). The minimum and maximum monthly rainfalls over this period were 7 mm and 422 mm, respectively.

(e) Air quality at the AOI is expected to be good, due to its significant distance offshore and it not being immediately down-wind (i.e. from the predominant south-west wind) of any large cities or industrial facilities.

(f) Currents that traverse across the AOI are predominantly influenced by the D’Urville and Westland Currents in the south, and the West Auckland Current in the north. Tidal currents on the Continental Shelf around Taranaki have been reported at speeds of approximately 0.07 m/s, with internal tides generating currents up to 0.3 m/s along the shelf edge.

(g) Metocean modelling for waters surrounding the MPB, located within the AOI, predicts near-surface tidal currents to flow at speeds of up to 0.25 m/s (refer to Figure 21 of the IA). The dominant flow direction is towards the WNW and ENE quadrants.

(h) Non-tidal surface currents are generally stronger than tidal currents, occasionally flowing at speeds of more than 1 m/s around MPB (refer to Figure 22 of the IA). These currents can move in any direction, but predominantly flow towards the NE and SE quadrants during winter, spring and summer months. Autumn months are more heavily influenced by currents flowing towards the S quarter.

(i) The Taranaki Bight is considered to have a high-energy wave climate due to its exposure to long-period swells originating from the Southern Ocean and locally generated seas. Metocean modelling for MPB found the swell direction to be predominantly from the WSW year-round (refer to Figure 23 of the IA); a reflection of the dominant wind direction. Wave heights of 1 m to 3.5 m are most common, with wave periods between 11 and 16 seconds. The expected extreme significant wave height at MPB is 9.9 m (100-year return period).

(j) Sea surface temperatures in New Zealand waters show a north to south gradient with warmer waters found in the north, cooling towards the south. Sea surface temperatures in the Taranaki Bight are approximately 13 – 14 °C in winter (August), and 18 – 20 °C in summer (February) (refer to Figure 24 of the IA). While near-bed water temperatures are not well documented, seasonal monitoring at the Maari Field has shown near-bed temperatures to be relatively constant throughout the year, with a range of 1.7 °C (12.7 – 14.4 °C).

(k) The water quality within the AOI is expected to be good. Sediment and nutrient input from terrestrial systems and riverine input is not expected to affect water quality in the offshore environment within the AOI.
Regarding ambient noise, vessel noise is the dominant contributor to the shallow water soundscape (i.e. < 250 m) while deeper water environments have a number of different noise sources (i.e. vessels, seismic surveys, marine mammals and earthquakes).

Much of the seabed within the AOI is relatively flat, and characterised by a gently sloping continental shelf, extending from the coast out to a water depth of 100 – 160 m. Beyond this, the gradient of the seabed steepens as the sea floor transitions into the continental slope. Water depths within the AOI range from 108 – 119 m and there are no submarine canyons located near the AOI.

Visual observations of sediment cores and video sled tows undertaken during the Māui Benthic Baseline Survey provide an overview of general seabed characteristics within the AOI. Sediment samples were predominantly cohesive, light-brown/light-grey coloured mud/sandy muds with some small amounts of broken shell material observed during sample processing. No very dark-grey or black sediment layers (apparent Redox Potential Discontinuity), or darker patches within cores were noted and no detectable hydrogen sulphide odours were present, indicating sediments are well oxygenated throughout the depths sampled.

Seabed sediments within the surveyed areas of the AOI were dominated by the smallest silt/clay sized fraction (86 – 95%), with small proportions of fine and very fine sand sized particles (5 – 14%).

7.2 Existing Biological Environment

Section 4.2 of the IA describes the existing biological environment of the AOI and surrounding Taranaki Bight, including information on benthic invertebrates, cetaceans, pinnipeds, seabirds, marine reptiles, fish, cephalopods, plankton and primary producers. Section 4.3 of the IA describes the coastal environment, marine protected areas and sensitive environments present. We adopt the descriptions presented in Sections 4.2 – 4.3 of the IA for the purposes of our decision and do not repeat that material accordingly. However, key summary points of these sections of the IA are:

According to the New Zealand Marine Environment Classification, the AOI lies primarily within Class 60, an extensive central coastal environment that occupies moderately shallow waters (mean depth = 112 m) on the continental shelf.

The semi-enclosed area of the South Taranaki Bight and Western Cook Strait is one of the most biologically productive coastal regions in New Zealand due to various features including the Kahurangi Upwelling, sediment discharges from the Kapiti Coast, coastal erosion and surf zone sediment re-suspension, phytoplankton blooms in Tasman and Golden Bays, and energetic mixing of waters in Cook Strait.

There is considerable spatial, seasonal, and inter-annual variability in the distribution of phytoplankton (which forms the base of the marine food chain and uses solar energy to fix atmospheric carbon dioxide into particulate organic carbon) around New Zealand, including the AOI, as a whole, with chlorophyll-α abundance highest in the spring and autumn, and lowest in winter.

The reader is referred to Section 4.2.1 of the Impact Assessment for explanations on these classes.
The euphausiid *Nyctiphanes australis*, a valuable prey item thought to support large numbers of blue whales, is a dominant feature of the South Taranaki zooplankton communities. Zooplankton play an important role in phytoplankton grazing and nutrient recycling and are an important food source for animals higher up in the food chain (particularly baleen whales) and commercially important fisheries. *N. australis* is thought to be present in the Taranaki Bight throughout the year, supporting large numbers of blue whales.

Zooplankton biomass is greatest at mid-shelf locations near the coldest water at the Kahurangi Upwelling, with biomass decreasing immediately downstream of the upwelling.

The coastline inshore of the AOI hosts a range of environments that vary significantly in substrate and morphology, water temperature, and exposure to wave action which directly influence the occurrence and density of various species that reside within the intertidal and coastal subtidal zones.

The Māui Benthic Baseline Survey found benthic infauna communities were dominated by small polychaete worms (53 taxa and 62% of all individuals), bivalves (16 taxa and 10% of all individuals), gastropods (12 taxa and 5% of all individuals), and amphipods (6 taxa and 5% of all individuals), with ‘other’ taxonomic groups (e.g. crustaceans, isopods, and nematodes) contributing less than 5% to the overall community.

Benthic invertebrates observed within the tows included whelks (likely *Austrofusus glans*), hermit crabs (*Pagarus* sp.), tusk shells (likely *Fissidentalium zelandicum*), sea pens (likely *Virgularia gracillima*), shrimps, and a number of sponges. Epifauna tracks along the seabed indicated that mobile fauna (e.g. whelks and hermit crabs) actively move throughout the AOI.

Post-drill monitoring surveys from other drill sites within the Māui Field (Ruru-2 and -3) have found that although infauna communities at wellhead stations were significantly different to the rest of the Ruru stations, recovery towards pre-drill characteristics was occurring.

Fish populations within the AOI are represented by various demersal (no or near the seabed) and pelagic (open water) species, most of which are widely distributed from north to south, and from shallow coastal water to beyond the continental shelf edge.

The AOI lies within the neritic zone of the ocean - the relatively shallow part of the ocean that extends from the intertidal zone out to the shelf break (approximately 200 m water depth) where sunlight is still able to reach the sea floor. This zone is an area of high primary productivity and supports a number of commercially and recreationally important fish species. The fish found within the neritic zone generally are highly mobile, do not have fixed territories, and often school.

All chondrichthyan species (chimaeras, sharks and rays) potentially present within the AOI are classified as either ‘Not Threatened’ or ‘Data Deficient’, with the exception of great white sharks (‘Nationally Endangered’) and basking sharks (‘Nationally Vulnerable’).

There are 26 potential species which use the AOI for spawning / pupping purposes including snapper, jack mackerel, gurnard, hoki, john dory and kingfish.

There are potentially seven species of anadromous and catadromous fish which spawn and / or migrate within the vicinity of the AOI including lamprey and longfin and shortfin eel. These are fish which spend part of their lifecycle in fresh water and part in sea water.
The large bays and harbours in the coastal vicinity of the AOI, particularly Tasman Bay, act as nursery grounds for juveniles of a range of species such as snapper, tarakihi, john dory, barracouta, giant stargazer and rig.

Eight species of fish are listed as protected under Schedule 7A of the Wildlife Act of which the great white shark and basking shark have the greatest potential to occur in the AOI.

Octopuses have been found in previous benthic surveys within the Taranaki oil and gas fields, the AOI is not considered to be an important habitat for octopuses.

Squid are found across the continental shelf in water depths up to 500 m but while Arrow squid have been caught within the Taranaki Bight during research trawl surveys, they are not commercially targeted within the bight as 95% of New Zealand’s squid catch is taken by deep-water trawls from southern and sub-Antarctic fishing grounds, while coastal jigging vessels catch the remainder in calmer, more northern waters.

Marine reptiles occasionally visit the south-western coast of the North Island, mainly during summer months when warmer currents push down the western side of New Zealand. Leatherback turtles and yellow-bellied sea snakes have been observed in Taranaki waters; however, they are rare visitors and are not routinely present as far south as the AOI.

A total of 36 marine mammal species, including cetaceans (whales, dolphins and porpoises) and pinnipeds (seals and sea lions), have been determined to have either ‘likely’, ‘possible’ or ‘occasional visitors’ presence with the AOI. Some of these are classified as ‘threatened’ species.

The 31 cetacean species assessed as being ‘likely’ or ‘possible’ in the AOI during the Māui EAD Programme, include pygmy blue whales, Bryde’s whales, southern right whales, pygmy sperm whales, killer whales, false killer whales, pilot whales, bottlenose and common dolphins.

Humpback whales and Maui’s dolphins are considered ‘occasional visitors’. While the North Island Maui’s dolphin population extends from Maunganui Bluff to Whanganui, the offshore nature of the AOI serves to reduce the likelihood of encountering this threatened species during the Māui EAD Programme. However, despite their low densities off the South Taranaki coast, it is possible that Maui’s dolphins could be occasional visitors in the AOI and it is possible that Hector’s dolphins could also visit the AOI during the Māui EAD Programme.

Nine species of pinniped are known in New Zealand waters. Based on the abundance of sightings in and around the AOI, New Zealand fur seals will be present, and concentrations at sea may occur around oil and gas facilities which provide seals with offshore haul-out opportunities. While sighting data is limited, it is possible that southern elephant seals are present within the AOI.

New Zealand’s marine waters support the most diverse seabird collection worldwide. There are over 86 different species utilising New Zealand’s marine environment, 42 of which are potentially present within the AOI, some of which have a ‘threatened’ classification. There are also 29 species of shorebirds considered to be potentially present in the coastal vicinity of the AOI.
While no seabird breeding occurs within the AOI on account of its offshore nature, there are potentially 22 species of seabirds and shorebirds that seasonally occupy coastal breeding locations in areas adjacent to the AOI. These sites are typically found north of New Plymouth, and at Farewell Spit and the Marlborough Sounds.

The Cook Strait Important Bird Area\(^8\) covers the South Taranaki Bight and Cook Strait.

No sensitive environments were identified within the AOI during the Māui Benthic Baseline Survey. Consequently, while it is possible that sensitive environments exist in the Taranaki Basin, their absence from areas where sampling has been conducted to date indicates that they are likely to be rare in the well locations of the Māui EAD Programme, if they exist at all.

195. Regarding OTL’s description of the existing marine environment, the EPA's external expert on the biological environment stated\(^9\) that:

*I consider that the descriptions of the following aspects of the marine environment in the AOI for the Māui EAD programme are based upon best available information, as defined in section 61(5) of the EEZ Act, and are at a level of detail that is appropriate for the purposes of the risk assessment within the IA.*

196. DoC confirmed in its s56 response\(^10\) that the list of marine mammal species and likelihood of presence in the AOI are accurate but considered ‘additional weighting should be applied when considering critically endangered species such as the Māui Dolphin.’ DoC also accepted that OTL’s identification of the Marine Protected Areas (refer to Section 4.3.2 of the IA, particularly Figure 41) is accurate.

197. Regarding seabirds, DoC also agreed\(^11\) that the list in the IA was comprehensive but commented that not all species were present in significant numbers. While outside of the AOI but potentially within an oil spill impact area, DoC identify\(^12\) the Farewell Spit as an additional area of significance as the area is a RAMSAR\(^13\) site and an internationally renowned bird sanctuary.

\(^8\) Forest and Bird, Birdlife International and Birds New Zealand have identified a number of areas within New Zealand as ‘Important Bird Areas’. These areas have been identified as internationally important for bird conservation and are known to support key species and other biodiversity. Important Bird Areas are not areas that have been officially protected under legislation; their function is to help focus and facilitate conservation action for a network of sites that are significant for the long-term viability of naturally occurring bird populations.


\(^11\) Ibid – paragraph 11.

\(^12\) Ibid – paragraph 27.

\(^13\) A RAMSAR site is recognised as Wetland of International Importance under the Conventions on Wetlands - https://www.ramsar.org/
8. Environmental Impacts

8.1 Introduction

198. This section outlines the actual and potential effects of the activities for which marine consent and marine discharge consent are sought. The effects associated with unplanned events, for which no consents are sought, are dealt with separately in Section 8.6 of this decision.

199. Section 7.1 of the IA sets out OTL’s approach to assessing effects and states:

This Consent Application is for activities restricted by section 20 and 20B of the EEZ Act. Some of the activities which require consent have discrete effects, whereas others have combined potential effects which cannot be (and should not be) separated. For example, the deposition of drill cuttings on the seabed can have physical/smothering effects; however, the drill cuttings can also have harmful substances from drilling fluids adhered to them and therefore there are also chemical effects that need to be considered when assessing the effects. For the purposes of this assessment a ‘combined’ effects approach has been taken for the following activities:

- Drill cuttings and drilling fluids;
- Cementing operations; and
- Formation evaluation.

200. We accept that this approach is a pragmatic way to deal with the effects of the planned activities and note that no adverse comment was received from any of the technical reviewers on this approach.

201. Section 7.2 of the IA presented an environmental risk assessment (ERA) which assessed the likelihood of any particular effect occurring (ranked/scored from ‘remote’ (1) through to ‘certain’ (6)) and also the consequence should such an effect occur (ranked/scored from ‘negligible’ (0) through to ‘catastrophic’ (5)). A single resultant risk ranking (over the AOI) is calculated by multiplying the likelihood and consequence scores. The risk rankings that were used by OTL are set out in Table 5 (refer to Table 55 of the IA).
Table 5 - Risk Ranking description used for Environmental Risk Assessment by OTL

<table>
<thead>
<tr>
<th>Risk Ranking</th>
<th>Potential Impact</th>
<th>Predicted Magnitude of Environmental Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme (18-30)</td>
<td>Extreme Risk – unacceptable for project to continue under existing circumstances. Requires immediate action. Equipment could be destroyed with large environmental impact as a result of the activity.</td>
<td>Very Significant</td>
</tr>
<tr>
<td>High (12-16)</td>
<td>High Risk (intolerable risk) – where the level of risk is not acceptable and control measures are required to move the risk to lower the risk categories. Medium environmental impact from the activity.</td>
<td>Significant</td>
</tr>
<tr>
<td>Moderate (6-10)</td>
<td>Moderate Risk – requires additional control measures where possible or management/communication to maintain risk at less than significant levels. Small environmental impact from the activity. Where risk cannot be reduced to ‘Low’ control measures must be applied to reduce the risk as far as reasonably practicable. Requires continued tracking and recorded action plans.</td>
<td>Minor</td>
</tr>
<tr>
<td>Low (1-5)</td>
<td>Low Risk – where the level of risk is broadly acceptable and generic control measures are already assumed in the design process but require continuous monitoring and improvement.</td>
<td>Less than Minor</td>
</tr>
<tr>
<td>Negligible (0)</td>
<td>Negligible Risk – no intervention or further monitoring is required. Negligible environmental impact.</td>
<td>Negligible</td>
</tr>
</tbody>
</table>

202. We accept that this approach is appropriate for identification and consideration of the environmental risks from the activities associated with the Māui EAD Programme and this approach is consistent with that used by OMV under previous EEZ Act applications which have been approved by other DMCs under delegated authority.

8.2 Biological Environment

8.2.1 Introduction

203. The effects of the proposed activities on the biological environment are discussed in the following sections. The biological environment includes fish species, some of which are caught by persons with existing interests. Effects on commercial fisheries are considered separately in Section 8.4.1.2.1 of this decision.

204. Section 7.3 of the IA identified some uncertainties associated with some activities under the Māui EAD Programme and how these have been addressed in the application. These relate to the:

(a) Presence or absence of sensitive environments in the yet to be defined well sites;
(b) Exact volumes of material disturbed, removed and redeposited during the drilling activities;
(c) Determination of the likely impacts using model outputs; and
(d) Exact harmful substances and the amounts and volumes to be used and discharged.
205. OTL concluded that the above uncertainties do not affect the effects assessment process as OTL have applied a conservative approach in considering potential effects of the Māui EAD Programme activities. The assessments have been based on worst-case scenarios and actual effects are anticipated to be less than those predicted and assessed in the IA. Further, OTL has also proffered conditions to ensure that any potential associated adverse effects are appropriately managed.

206. For example, we note that OTL’s sediment modelling has incorporated the volumes of drill cuttings from drilling two wells (main well and re-spudding) at a single site and incorporates a larger diameter drill hole. These allowances provided a level of conservatism for the modelling and therefore result in consideration of a broader area than where any likely ecological effect will occur.

207. We agree with OTL that the above matters do not prevent an appropriate assessment of the potential for effects on the environment or on existing interests. Where relevant, we discuss these matters further in our findings on the biological environment.

8.2.2 Effects on the Biological Environment

208. Section 7.4 of the IA assesses the risks of the various planned activities (as described in Section 6.2 of this decision) on the various biological environments that may be affected. We adopt that assessment for the purposes of our decision. Key points from that section of the IA are:

(a) All activities (including the pre-drill survey, drilling activities and anchoring MODUs) which result in physical disturbance of the seabed or removal of seabed material have the potential to disturb, or result in mortality of, organisms living in or on the seabed. Such effects are more likely for sessile species as mobile organisms can move away. In addition, such activities are likely to result in some resuspension of sediment which can increase the turbidity and suspended sediment concentration in the water column.

(b) When a MODU or support vessel enters New Zealand waters, it will arrive clean of any biofouling organisms and will be inspected by MPI prior to entering New Zealand – as such, no invasive species will be present.

(c) As the drilling activities will be undertaken using either a jack-up, drillship, or a semi-submersible MODU, all of which have some form of anchoring to the seabed, the installation and removal of a MODU has the potential to affect pelagic environs (water quality) and benthic environs (seabed and benthic invertebrates) through disturbance of the seabed and associated sedimentation.

(d) The physical presence of the MODU will mean that marine mammals could be displaced from the relatively small area of water column that the MODU occupies. In addition, such structures have the potential to result in ‘ship strike’ where marine mammals collide with the MODU.

(e) Seabirds are attracted to offshore structures, including MODUs, due to structural stimuli, increased concentration of food, lights, and flares. Effects can be either positive or adverse – positive effects include concentration of prey and provision of roosting refuge at sea. Adverse effects include disorientation and collision, particularly at night.

(f) Effects on fish are restricted to those arising from the physical presence of the MODU, which can cause fish aggregation.
(g) Noise and vibration from the MODU (both in transit and over a well site) and the drilling activities can affect marine species (including mammals and fish) which use echo-location to communicate and detect prey.

(h) The MODU will occupy a very small area of potential habitat and its presence is temporary (approximately 90 days at each well site).

(i) The BOP fluids to be used will discharge to the pelagic environs. However, the BOP discharge within the water column will be confined to a small area around the BOP and be well within the 200 m zone of reasonable mixing proposed, even under the worst-case scenario discharge events (i.e. 1,000 litres discharged in a single event).

(j) Noise and vibration from the drilling activity will be nearly continuous at predominantly low to mid-frequencies. Low frequency noise has long-range propagation through minimal attenuation, while medium frequencies have a limited propagation due to greater attenuation.

(k) The noise and vibrations associated with drilling are primarily experienced on the seafloor due to activities occurring in close proximity to the seabed. Noise generated by well-construction and drilling activities will alter the ambient noise levels in the marine environment (as a result of well construction, and operation of compressors and other ancillary equipment), although such noises are expected to be localised and will only affect the ambient environment for the duration of the drilling period at each of the wells.

(l) Discharges of excess cement from well activities have the potential to affect the physical environment (i.e. water quality and plankton) and the biological environment (i.e. benthic invertebrates). However, the zone of influence is small being up to an area of 15.2 m² of seabed for a single discharge of excess cement; therefore, effects on marine organisms from harmful substances within the discharged cements are likely to be restricted to a relatively limited area close to and slightly down-current of the well location that is well within a 200 m zone of reasonable mixing.

(m) Drill cuttings are discharged both at the seabed when installing the riser and at the sea surface when discharged from the MODU; thus, there are two zones of influence for discharges, these being pelagic (water column) and benthic (seabed).

(n) The discharge of drill cuttings will result in increased turbidity and suspended sediment concentrations in the water column as the sediment falls to the seabed. The cuttings will also contain residual amounts of harmful substances from the drilling fluids and, potentially, trace hydrocarbons. While the process to be used aims to recover as much of the drilling fluids as possible, some harmful substances remain adhered to the cuttings and are therefore discharged to the sea. On occasion, drilling fluids stored on the MODU, including those that contain harmful substances, will be disposed of directly to sea as a batch discharge.

(o) OTL predicts total suspended sediment (TSS) concentrations in the water column to increase by 0.485 mg/L at a distances between 100-250 m from the MODU discharge point and this increase has been used as the assumed suspended sediment concentration at the edge of the 200 m zone of reasonable mixing. This is a very conservative assumption as this TSS increase is likely to occur at the 100 m distance (i.e. the nearest distance in the 100-250 m band) and the actual TSS at the edge of the 200 m zone of reasonable mixing will be less than 0.485 mg/L.
Compared with ambient levels, modelling shows that TSS, which can be used as a proxy or surrogate for turbidity, will increase by less than 1 mg/L beyond the 200 m zone of reasonable mixing. Due to the relatively small percentage of cuttings being discharged at the surface (16%) and the high-energy receiving environment, no significant reduction in light penetration through the water column is anticipated.

OTL has used a conservative value of 90% of the drilling fluids to be recovered from drill cuttings before they are discharged for their assessment, meaning that 10% of the cuttings’ mass would involve drilling fluids that have adhered to the cuttings. As such, the zone of influence associated with the harmful substances adhered to the cuttings falls within (i.e. less than) the 200 m zone of reasonable mixing.

Batch discharges of drilling fluids may occur from the MODU. These comprise a mix of drill fluids and seawater (the primary component) and will be rapidly diluted when discharged so that the zone of influence of the discharge, as a batch discharge, is contained within the 200 m zone of reasonable mixing.

As the cuttings deposit on the seabed they can smother organisms that live in or on the seabed. OTL has applied a worst-case modelling scenario and an effects assessment assuming depositional thicknesses need to be below 6.5 mm to ensure no adverse benthic effects occur. This is a conservative threshold, but one considered sufficient to ensure all environments, including sensitive environments (defined under Schedule 6 of the Permitted Activity Regulations), are not adversely affected.

The 6.5 mm depositional footprint is predicted to extend 47 m from the well (refer to Table 13 of the IA), occupying an area of around 0.008 km², which is well within the 200 m zone of reasonable mixing. However, a conservative approach has been taken by using the benthic monitoring results of other well drilling undertaken in the Taranaki Basin. In some cases, monitoring has shown significant decreases in the abundance and diversity of the benthic macrofauna (compared to pre-drill levels) following the completion of drilling at sites as far as 500 – 1,000 m from the well location. For this reason, we have conservatively assumed the potential area of impacts could be up to 3 km².

The environmental effects from the trace hydrocarbon discharges in drill cuttings will not result in detectable impacts, at a population level, to any of the marine species that have been identified to be present within the AOI, with the ecosystem remaining intact.

Recovery timescales for benthic communities that may be smothered can vary widely depending on numerous factors but these generally return to baseline conditions within one year after cessation of drilling. However, re-colonisation may be (and typically is) by a different community assemblage.

While no sensitive environments were located during the Māui Benthic Baseline Survey, OTL proposes to undertake pre-installation surveys to confirm, or otherwise, the presence of such environments in and around each well site. If a sensitive environment is found, OTL proposes to follow a decision-making process and implement a defined set of actions, which includes pre-installation ROV surveys, deposition modelling and selecting an alternative site.

As part of the formation evaluation process, DST may result in discharges from flaring activities, well clean-up, and the atmospheric storage tank. However, OTL concludes that any resulting environmental effects from the discharge of harmful substances associated with the
DST will not result in detectable impacts on any of the marine species that have been identified to be present within the AOI, or at a population level, with the ecosystem remaining intact.

(y) There is a low level of risk present for impacts on seabirds associated with the DST flaring operations.

(z) The process of abandoning the well includes disturbance of the seabed to remove the well head, and deposition of cement, with limited effects beyond the immediate vicinity of the well location. As no structure will be visible or remain above the surface of the seabed, there will be no further effects on the biological environment, and benthic recovery will commence immediately with sediment infilling and re-colonisation by opportunistic benthic macrofauna.

(aa) Other operational discharges will release very small quantities of harmful substances during the Māui EAD Programme. These substances are required for a variety of activities including lubrication (i.e. drilling tools, wellhead and riser connectors), application of anti-foulant for cooling systems, and cleaning the slop-handling unit. However, due to the localised effect of the discharges and the high level of dilution experienced, the overall impact of these discharges has been identified as negligible.

(bb) OTL will undertake pre- and post-drilling monitoring following a standard offshore sampling procedure (in accordance with OTEMP) at the same sampling stations each year. This methodology will result in minor seabed disturbance and removal of non-living material and, therefore, have the potential to impact the ecological environments. Due to the scale and temporary nature of these activities the risk and magnitude of effects will be negligible.

(cc) The effects associated with contingent activities are generally consistent with those of the standard drilling operations, except for those associated with the use of explosives. Activities using explosives will cause additional noise and disturbance effects associated with this activity. However, explosives will only be used as a last resort.

209. As described throughout Section 7.4 of the IA, OTL has proposed a suite of mitigation measures to address the actual and potential effects of its activities, and some of these include:

(a) Compliance with Good Oil Field Practice guidelines which include requirements under relevant international regulations and WorkSafe safety cases;

(b) The short-term and temporary nature of the drilling activity and discharges at an individual site;

(c) Undertaking pre and post-drilling surveys and monitoring (including ROV surveys) of the well sites to determine the presence of sensitive benthic environments;

(d) A defined process for dealing with sensitive environments, including ensuring that no more than 6.5 mm of deposition will occur over any of these environments and, where this cannot be avoided, ensuring that any effects will not be significant at a population level;

(e) Prior to the drilling of each well associated with the Māui EAD Programme (other than Māui-8 which has already been modelled), OTL will undertake drill cutting dispersal and deposition modelling specific to that site. The results will be used to develop a monitoring programme to determine pre-drill conditions and to identify whether any sensitive environments may be
affected by the drill cuttings. In the event that the modelling and monitoring show that sensitive environments may be affected, the well location will be moved to the extent required to ensure that the depositional thickness of drilling cuttings on the area containing the sensitive environment does not exceed 6.5 mm deposition, as predicted by the modelling;

(f) Pre-drill benthic surveys will be undertaken prior to the commencement of drilling at each well location. A post-drill survey will be taken within six months following completion of all drilling activities at each well location, which will ideally be in the same season as the pre-drill monitoring to remove any seasonality components. This post-drill monitoring will be repeated annually for a period of up to three years in accordance with the EMP. This monitoring programme will assess the initial impact of drilling and subsequent recovery and recolonisation over time;

(g) The use of the least ecotoxic substances possible during the drilling operations;

(h) Cement will be specifically formulated to ensure it is suitable for the well being drilled and the calculations will be undertaken to minimise excess cement remaining;

(i) Using WBM where possible for drilling activities and recycling and reusing as much drilling fluid as possible to minimise discharges to the sea. Where SBM is to be used, associated cuttings will be collected and disposed of on land;

(j) Ensuring all equipment used for the Māui EAD Programme will be inspected, tested and maintained as per the MODU planned maintenance system requirements and in accordance with applicable industry standards to ensure its integrity;

(k) Following a defined well abandonment process to ensure the well is appropriately sealed and structures and other items will be removed from the seabed;

(l) Provision for a range of operational controls for the MODU, and supporting vessels;

(m) Mitigation measures employed on the MODU to minimise the risk of impacts on seabirds; and

(n) Undertaking a post-drill monitoring programme to be repeated annually for a period of up to three years.

210. For the majority of the effects, Section 7.4 of the IA assessed the environmental risks associated with planned activities on the various receptors in the biological environment as generally being negligible, low and / or less than minor.

211. The one exception concerned the effects of the drill cuttings and drilling discharges on the benthic environment, including the sensitive environments, where the risks were assessed as moderate and of minor magnitude.
8.2.3 Discussion

8.2.3.1 Sediment Modelling

212. One of the primary drivers of effects of the Māui EAD Programme is the deposition that will occur as a result of the discharge of drill cuttings. Due to the nature of activities, location of the AOI, and the depth of the water, the deposition and dispersal of drill cuttings must be modelled to understand the volume and the extent of the deposition. The outcomes of the modelling are fundamental to the overall conclusions on effects of the activities on the different receptors, particularly the benthic environments.

213. The IA, including Appendix A, provides detail on how OTL has used modelling to determine the extent of effects of the drilling activities, how the modelling has been undertaken and reports on the results of the modelling.

214. The EPA engaged an external expert (Mr Justin Rogers of Coffey) to review OTL’s drill cutting modelling. The review\(^{14}\) found that, whilst the discussion in the IA was an appropriate summary of the deposition modelling results, there were technical deficiencies which meant that the model predictions could not be relied on at scales where the modelling methods are invalid, particularly close to the discharge point.

215. Section 5 of the Coffey Report summarised a number of matters which were considered deficiencies or impacted the model reliability including:

(a) Time averaging of the TSS results;
(b) Particle counts and masses;
(c) Choice of horizontal mixing coefficients;
(d) Discharge rates;
(e) Batch discharges; and
(f) Bulking Factor.

216. Based on the issues identified by Mr Rogers, we directed expert conferencing (refer to Minute 3\(^{15}\)) on the following matters related to drill cutting dispersion modelling:

(a) Issue 1 – The Coffey Report states that the dispersion modelling and volumes discharged predicted by MetOceans Solutions (MOS) are based on a 20-day operating window with predicted deposition concentrations time averaged by month. Coffey considers this could underestimate TSS concentrations by approximately five times on account of averaging.

- Can the basis of this time averaging assumption be clarified, and justification provided?


\(^{15}\) M3 (Expert conference on modelling) – Minute of the Decision-making Committee – 5 March 2020.
Would a change in averaging period have a material effect on the deposition profile?

(b) Issue 2 - MOS state that the horizontal mixing coefficient of 1.0 m$^2$/s is derived from average of the longitudinal and lateral diffusivities obtained with the Elder formula. Reference is also made to Fisher et al regarding mixing coefficients. Coffey considers this value could be too high, resulting in a likely underestimation of near field effects and concentrations of interest may occur within 10 to 200 m of the discharge.

Would a lower horizontal mixing coefficient have a material effect on model resolution and thickness profiles beyond the zone of reasonable mixing?

What would be the likely impact on the TSS concentrations and in particular the likelihood of the plume exceeding the 10mg/l threshold from both continuous drilling and batch discharges?

217. As set out in the Joint Statement on Modelling$^{16}$, the experts concluded:

(a) In respect of the Drill Cuttings Dispersion Modelling, the experts agreed that a different modelling approach to that originally used by MOS should be undertaken, and further near field modelling to confirm dilution within 1,000 m of the initial discharge point was recommended;

(b) A change in the averaging period of the modelling would have a lesser effect on the deposition profile;

(c) A change in the mixing coefficient would not materially affect the deposition profiles beyond the zone of reasonable mixing; and

(d) Regarding TSS concentrations, results are impacted by the modelling method.

218. The impact of the modelling outcomes on the scale of effects is discussed further below.

8.2.3.2 Benthic Environments

219. Key adverse effect of activities associated with the Māui EAD Programme on the benthic environment are:

(a) Smothering of the seabed through the deposition of materials (including drill cuttings); and

(b) The disturbance as the seabed as a result the installation and removal of the MODUs and the well construction activities.

220. Regarding the effects of smothering, OTL stated (refer to Section 3.2.6.1.2 of the IA) that a depositional thickness threshold of 6.5 mm was used in OMV New Zealand’s previous Marine Consent application (EEZ200010) as below this deposition thickness benthic taxa mortality is not expected to occur. This same deposition threshold has been used for this application for assessing the potential effects of the deposition of drill cuttings on benthic taxa.

221. We note that the EPA’s external expert on the biological environment (Mr Baxter) was silent with respect to the appropriateness of the 6.5 mm depositional thickness threshold for sensitive environments.

222. OTL stated that the deposition of drilling cuttings on the seabed is the most practicable option for their disposal and an environmental monitoring programme will be implemented to monitor this activity. As discussed in Section 6.2.7, OTL propose the monitoring will be undertaken in accordance with the EMP (provided as Appendix B of the IA) to monitor the effects of the drill cuttings discharge and subsequent recovery of the benthic environment. Section 1.2 of Appendix B of the IA identifies the purpose of the EMP as being:

(a) To identify during the pre-drill survey the presence of any sensitive environments that may be affected by drilling activities;

(b) To set out the methods that will be used to ensure that the activities authorised by the marine consent do not result in effects beyond the nature and scale described in the marine consent application; and

(c) To provide a framework for reporting of qualitative and semi-quantitative observations (i.e. benthic imagery) and quantitative measurements (i.e. grab sampling) to monitor any potential effects on the benthic environment from the activities authorised by the marine consents and subsequent recovery over time.

223. Regarding OTL’s effects assessment, Mr Baxter found\(^{17}\) that:

(a) The assessment of potential impacts on the marine environment was based upon best available information as defined in section 61(5) of the EEZ Act; and

(b) The environmental risk methodology within the IA was generally appropriate for the purposes of the consent application.

224. Mr Baxter identified\(^ {18}\) a number of matters where additional information should be requested in order to better understand the predicted zones of influence of the discharges. We decided not to request further information as the issue of zone of influence was discussed extensively in the ERA Discharges Report (which we discuss later in this decision).

225. Regarding environmental risks, Mr Baxter contested\(^{19}\) some of the classifications were not sufficiently conservative. For example, regarding other operational discharges – Mr Baxter contends that, although the effects of these discharges on both pelagic and benthic environs will be highly localised, they will occur frequently and may potentially impact upon protected species; hence, a consequence of Minor is more conservative, resulting in a Low Environmental Risk (rather than Negligible).


\(^{19}\) Ibid - Section 4.5.1 and 4.5.4.
226. Regarding sensitive environments, Mr Baxter concurs that it is unlikely that any of these environs are present within the AOI and there is a low risk of discovering these at undefined well locations. However, the following is relevant:

(a) Pre-drill surveys will be necessary to determine whether any sensitive environments have become established subsequent to the baseline survey prior to the commencement of the drilling activities at each location; and

(b) Timeframe between surveys and drilling shall be no greater than 6 months.

227. Further, Mr Baxter identified\textsuperscript{20} that, under the Permitted Activity Regulations, an initial environmental assessment and Sensitive Environments Contingency Plan will be provided to the EPA at least five working days before commencing an activity. While Mr Baxter does not explicitly identify which regulations he refers to, we have assumed that it is section 5 of the Permitted Activity Regulations which relates to marine scientific research, prospecting and exploration activities.

228. Other than for Māui–8 pre-drill monitoring, we note that this regulation is not relevant to the Māui EAD Programme activities as OTL has specifically applied for marine consent for other environmental monitoring under section 20(2) of the EEZ Act. Therefore, a Sensitive Environments Contingency Plan is not required here nor is an initial environmental assessment (in accordance with Schedule 2) required. However, pre-drill surveys should be undertaken prior to any drilling activities.

229. While the Sensitive Environments Contingency Plan is not required, we note that the EMP proposed by OTL, addresses the concerns raised by Mr Baxter and which includes as a minimum, the requirement to comply with the plan.

230. Regarding seabed disturbance activities, Mr Baxter\textsuperscript{21} concurs with OTL’s negligible environmental risk rating for effects on the benthic environment provided the MODU and wells are located away from any sensitive environments.

231. The EPA Conditions Report recommends that, due to the uncertainties regarding the MODU type and associated installation and removal methods, a MODU Installation and Removal Plan (MIRP) be prepared and submitted to the EPA for certification. We record the EPA Conditions Report states\textsuperscript{22} that OTL requests that the DMC reconsiders the need for this condition and at the least removes the requirement for certification and the proposed surveying and assessment requirements which they consider are covered under conditions 22, 23, 26 and 27. We discuss conditions later in this decision.

232. Mr Baxter concurred with OTL’s position that there will be no effects from the Māui EAD activities beyond the EEZ.

\textsuperscript{20} Ibid – paragraph 29(m)(iv).
8.2.3.3 Discharges from the Māui EAD Programme

233. Regarding discharges of harmful substances, OTL identified 19 substances, as well as trace hydrocarbons, that are likely to be used in the Māui EAD Programme and that are considered harmful substances with the potential to impact the receiving environment. However, as outlined in Section 7.3.4 of the IA, OTL also stated that there is no guarantee that the same substances will be used for all wells that may be drilled as part of the Māui EAD Programme, in part because different MODUs may be used for future drilling campaigns. OTL further stated that the harmful substances that will actually be used for drilling of the Māui-8 well may also differ from those included in this application for a number of reasons, including:

(a) Operational changes may mean that an alternative substance is needed;

(b) The substances specified in this application may not be available at the time of drilling; and

(c) New proprietary products may become available which are either more economic to use with no loss in effectiveness and no greater ecotoxicity to aquatic organisms; or are less ecotoxic to aquatic organisms.

234. Based on the above, OTL have requested flexibility regarding the harmful substances used during the Māui EAD Programme and believe that through adoption of their proffered conditions, the risks and potential effects of discharging the alternative harmful substance are the same, or less, than the substance that it is intended to replace.

235. We note that the IA specifically stated that the recent EPA decision on OMV GSB Ltd’s Marine Discharge Consent EEZ300011 did not include OMV’s proffered conditions which would provide the flexibility being sought above. Instead, the EPA’s decision, which restricts the discharges to those identified in the IA, means that OMV will need to apply for a formal change to conditions under section 83 of the EEZ Act every time they want to use an alternative harmful substance. OTL is still of the view that the approach being sought here is appropriate and fully addresses any uncertainty associated with possible alternative substances that may be used. We discuss this further below.

236. With regard to the effects of the discharges, Section 7.4 of the IA concludes that the effects of the discharges on most of the environmental receptors are negligible or less than minor except for effects on the benthic environment (including sensitive environments) identified as a moderate risk and of at minor magnitude.

237. Mr Baxter considers that a number of OTL’s environmental risk ratings for effects relating to discharges are insufficiently conservative and should be increased as follows:

(a) Cementing operations – pelagic taxa – Minor to Low;

(b) Deposition of drill cuttings, trace hydrocarbons and drilling fluids:

   i. Primary productivity – Negligible to Low;

   ii. Mammals, fish, pelagic communities and seabirds – Minor to Low;

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Regarding the zone of reasonable mixing, Mr Baxter states\(^{24}\) that:

... whilst OTL appears to suggest that a 200 m zone of reasonable mixing can be considered conservative (in comparison to the defaults adopted within the Chemical Hazard Assessment and Risk Management model), I suggest that a (potentially more) conservative approach would be to adopt the zone of influence for the most harmful substance within the discharges as the mixing zone.

Following Mr Baxter’s comment, to further understand the effects of the discharges from the Māui EAD Programme, the EPA undertook an environmental risk assessment\(^{25}\) for the 19 substances and trace hydrocarbons using the CHARM model and Non-CHARM approach\(^{26}\), as appropriate. Both assessments compare the Predicted Environmental Concentrations of a product to the Predicted No Effects Concentration, to estimate a Risk Quotient value. The assessment process used a ‘worst-case’ scenario and a conservative ‘realistic’ scenario for each of the substances. This provides an overall conservative conclusion on the impact of the discharges. The volume of discharges for each substance was taken from the information provided as part of the IA.

The assessment process and findings are summarised in the following excerpt from the Executive Summary of the ERA Discharges Report:

... The harmful substances proposed to be discharged are expected to have environmental effects that are equivalent to less than minor or negligible (based on the risk assessment methodology in OTL’s applications). The ecotoxic risk of each substance was first assessed using the EPA risk assessment system developed for assessing effects of discharges. This system determines whether a substance poses a negligible, very low, low, medium, high, or very high ecotoxic risk to the environment. This was then applied to the risk assessment methodology in OTL’s application, taking into account the duration, scale, and intensity of effects in the wider context of the application. The expected environment effects are then described in terms of negligible, less than minor, minor, significant, or very significant. The risks and environmental effects are summarised in Table 1.

The discharge of harmful substances that is expected to have the greatest environmental impact is the discharge of Water-Based Muds (WBM), also termed ‘drilling fluids’. WBM...
include CAUSTIC SODA, LIME, PERFORMATROL and CLAY GRABBER. This discharge will occur though three pathways: WBM discharged directly onto the seafloor during the first two sections of the well, WBM adhered to drill cuttings discharged from the MODU and, batch discharges of WBM. In a worst-case scenario this discharge may cause ecotoxic effects in the benthic environment up to 1,784 m from the point of discharge. These effects are not expected to be persistent or bioaccumulative in nature, but may degrade relatively slowly in sediments, particularly near the well site. These effects posed a medium ecotoxic risk to the environment and are considered to equate to effects that are less than minor. The discharges of all other substances are likely to result in negligible environmental effects.

Should the Decision-making Committee be minded to grant consent, potential adverse effects of these substances could be mitigated by restricting the discharged substances, their volumes, and the frequency of discharge.

241. The following table (Table 6), referenced as Table 1 in the quote above, identifies the 19 substances and the assessed environmental risk.

**Table 6 - The harmful substances assessed in the ERA Discharges Report**

<table>
<thead>
<tr>
<th>Discharge stream</th>
<th>Harmful substance</th>
<th>Use</th>
<th>Assessment Pathway</th>
<th>Risk Quotient (RQ)</th>
<th>Environmental effect&lt;sup&gt;27&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBM Additive</td>
<td>CAUSTIC SODA</td>
<td>pH control</td>
<td>Non-CHARM</td>
<td>Medium (137.9)</td>
<td>Less than minor</td>
</tr>
<tr>
<td></td>
<td>LIME</td>
<td>pH control</td>
<td>Non-CHARM</td>
<td>Medium (164.4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PERFORMATROL</td>
<td>Shale stabilizer</td>
<td>CHARM</td>
<td>Very Low (14.9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLAY GRABBER</td>
<td>Viscosifier</td>
<td>CHARM</td>
<td>Medium (261.1)</td>
<td></td>
</tr>
<tr>
<td>BOP Fluid</td>
<td>ERIFON HD 603 HP NO DYE</td>
<td>Blowout preventer fluid</td>
<td>Non-CHARM</td>
<td>Medium (134.6)</td>
<td>Negligible</td>
</tr>
<tr>
<td>MODU Cooling System</td>
<td>BIOGUARD PLUS</td>
<td>Antifoulant (biocide)</td>
<td>Non-CHARM</td>
<td>Negligible (0.04)</td>
<td>Negligible</td>
</tr>
<tr>
<td>MODU Slops Tank</td>
<td>RENACLEAN A</td>
<td>Cleaning agent - Water treatment chemical used in the RenaPure Unit to clean the membranes</td>
<td>Non-CHARM</td>
<td>Very Low (1.6)</td>
<td>Negligible</td>
</tr>
<tr>
<td></td>
<td>RENACLEAN B</td>
<td>Cleaning agent - Water treatment chemical used in</td>
<td>CHARM</td>
<td>Medium (117.6)</td>
<td></td>
</tr>
</tbody>
</table>

<sup>27</sup> Based on the risk assessment method specified in the IA.
The ERA Discharges Report\textsuperscript{28} concludes:

(a) The environmental effects that will arise as a result of the proposed discharge activities are \textit{less than minor or negligible};

(b) It is inferred that any environmental effects and associated risks will be temporary, and largely restricted to an area of approximately 10 km\textsuperscript{2} (within 1,784 m from the point of discharge) with increasing intensity of effects with closer proximity to the points of discharge;

\textsuperscript{28} Environmental Risk Assessment for Discharges, OMV Taranaki Limited, EEZ200011 January 2020 - Section 5.
(c) Based on similar activities in similar soft sediment environments in the South Taranaki Bight, the marine environment at drilling locations will likely recover in most cases between weeks to months, and for WBM deposited directly beneath the discharge point, from months to years following the completion of the EAD activities; and

(d) Consent conditions for the discharge activities should limit the discharge volumes and concentrations to at least those levels assessed in the ERA Discharges Report to ensure effects are consistent with those assessed.

243. Regarding OTL’s requested flexibility in the harmful substances to be discharged, we note that the ERA Discharges Report does not support this request (as summarised in paragraph 237.d. above). The EPA Conditions Report recommended that a new condition be included to ensure that discharge activities do not exceed the maximum volume, or maximum mass per drill site, specified for each harmful substance identified for use within the IA, which was that used for the ERA Discharges Report assessments.

244. Regarding conditions, we have provided additional commentary on the specific discharge conditions, in Section 10 of this report.

8.2.3.4 Marine Mammals and Seabirds

245. Regarding impacts on marine mammals, DoC’s s56 response identified a number of issues with the OTL’s assessment and these related to:

(a) Under-estimation of the MODU noise generation; and

(b) Inappropriate biological sound thresholds used.

246. Regarding under-estimation of MODU noise generation, DoC is particularly concerned with the noise produced from MODUs using dynamic positioning. While we note that the application identifies that a dynamic positioning capable MODU may be used for drilling activities, OTL has confirmed in Section 3.4.2.4 of the IA that this MODU will be anchored to the seabed as opposed to using its full dynamic positioning capability.

247. Regarding sound thresholds, the main concern, as we understand it, is that OTL has used thresholds in the DoC Code of Conduct for Minimising Acoustic Disturbance to Marine Mammals from Seismic Survey Operations. These thresholds are not applicable to the noise generated from a MODU which is a constant (non-impulsive) sound during drilling activities as opposed to an impulsive sound that occurs during seismic surveying. DoC identified that there has also been

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29 OTL Limited, Marine Consent and Marine Discharge Consent Application EEZ200011- Conditions Report, Prepared for the Decision-Making Committee, FEBRUARY 2020 – paragraph 67 and Table 2 – Condition 9A.


further research and work undertaken into the impacts of marine noise on marine mammals and suggested that further analysis should be undertaken by OTL on noise impacts on marine mammals.

248. While we accept that DOC raised concerns over the sound thresholds used, we record that:

(a) DoC stated\(^{32}\) that the chance of cetaceans experiencing Temporal Threshold Shift (noise impacts) is mitigated significantly by the fact that it is highly unlikely that mammals (excluding pinnipeds) will stay close to the MODU during operations; and

(b) OTL state, in Section 7.4.4.2.1 of the IA, that:

i. Of the time the MODU is on location, on average, only 40% is actually involved in drilling operations;

ii. The activities are occurring in open water and anecdotal evidence shows it is easy for whales to ignore or avoid platforms; and;

iii. There are no threatened species entirely reliant on the AOI.

249. Regarding noise effects on marine mammals, DoC stated\(^{33}\) that, while it is not possible to assess whether additional mitigation measures are necessary, it may be reasonable to require monitoring measures to address potential noise effects, such as monitoring an area (to be determined) surrounding the MODU for 30 minutes for the presence of marine mammals prior to commencement of the noise generating activities.

250. While we understand the potential merit in a condition of this nature, we consider there is insufficient evidence of any actual or potential effect and no identification by DoC as to the size of any mitigation zone to justify a new condition.

251. The EPA Conditions Report recommends any marine mammal sightings are reported to the EPA and we note the OTL did not oppose the recommendation. We support this inclusion.

252. Regarding seabirds, while DoC considers that the seabirds listed in the IA was ‘fairly comprehensive’ they did identify some issues as follows\(^{34}\):

(a) The inaccuracies of ‘not assessed’ in the IUCN Threat Status Classifications and noted that some species are identified under different names. DoC recommended that OTL update the table to better reflect the actual status; and

(b) The list should be provided in taxonomic order rather than threat status as the ordering in the table is somewhat random and that makes it difficult to work out if there are omissions of species that are present within the AOI.

\(^{32}\) Ibid – paragraph 18.

\(^{33}\) Ibid – paragraph 23.

\(^{34}\) Ibid - paragraphs 11 - 13.
253. In terms of the effects associated with loss of well control on seabirds, DoC\textsuperscript{35} stated that it did not wholly agree with the seabird risk rating of ‘minor’ with respects to the loss of well control in the IA based on the location of the AOI in relation to the Cook Strait Important Bird Area and also the Farewell Spit area. We note that a different risk rating was not provided by DoC. We do note that, while provided in advance of DoC’s s56 response, the EPA Conditions Report\textsuperscript{36} considered that the risk of an unplanned oil spill event occurring is mitigated by measures set out in other MMRs and the Health and Safety at Work Act 2015 (HSW Act).

254. Regarding the other activities under the Māui EAD Programme, DoC identified\textsuperscript{37} that the main concerns were in respect to gas flaring and lights. While no comment was provided on the level of risk, DoC did identify that mitigation measures could be imposed to address potential impacts on seabirds - which included avoiding any gas flaring activities at night, recording any seabird strikes or collisions, and providing for a process for handling seabirds that may be encountered on the MODU or other vessels. We note that such measures were not provided for in OTL’s Proffered Conditions.

255. With respect to marine mammals and seabirds, the EPA Conditions Report (which was produced prior to the delivery of DoC’s s56 response) incorporates conditions to avoid, remedy or mitigate direct or indirect adverse effects of the activities. These include:

(a) A requirement to make available to offshore personnel a New Zealand marine mammal and seabird species identification guide to assist in the accurate identification of species (Marine Consent - Condition 25);

(b) Recording and reporting of marine mammal sightings (Marine Consent - Condition 19); and

(c) The WSMP for each well site should identify how any effects, discovered through the monitoring of marine mammals are minimised (Marine Consent – Condition 29).

256. The recommendations of the EPA Conditions Report were taken into account when making our final decision on the marine consent and were amended by us, where we considered it appropriate.

257. Regarding impacts on protected species under the Wildlife Act, DoC’s s56 response\textsuperscript{38} confirmed with respect to protected species, where an activity is found likely to result in the death of a protected species, DoC identified that a party is required to gain an authorisation for such under the Wildlife Act. While a retrospective authorisation cannot be issued for an activity that accidentally kills a protected species, one can (and should) apply for an authorisation to accidentally kill a protected species where that is foreseeable. We note that this is a requirement of a separate MMR and we have no need, therefore, to discuss this matter further in this decision.

\textsuperscript{35} Department of Conservation - Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the OMV Taranaki Limited Application – EEZ200011 – paragraph 21.


\textsuperscript{38} Department of Conservation - Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the OMV Taranaki Limited Application – paragraph 7.
### 8.2.3.5 Mitigation Measures

258. Overall, when considering the actual and potential effects of the Māui EAD Programme, Section 7.10 of the IA sets out a suite of proposed mitigation measures to be implemented by OTL.

259. OTL state the primary mechanism for managing and mitigating effects on the biological environment is the pre- and post-drilling environmental monitoring proposed for each well site. It is intended to monitor the effects from the drilling activity on the benthic marine environment and its subsequent recovery and confirm whether any sensitive environments are present.

260. OTL has developed an EMP to monitor any potential effects from the Māui EAD Programme and, through their proffered conditions, OTL propose to provide a WSMP for each well that is drilled in the Māui EAD Programme to identify any sensitive environments, any measures to manage effects, and report on observations and measurements of any effects. Each WSMP is to be submitted to the EPA for certification prior to any drilling activities commencing at the corresponding well site.

261. The key mitigation measures to address the effects on the biological environment include:

- **(a)** Providing an EMP detailing the monitoring methodologies for the pre- and post-drill monitoring for any monitoring activities and developing a WSMP for each well drilled within the Māui EAD Programme;

- **(b)** Conducting pre-drill surveys to confirm the absence of sensitive environment within the immediate vicinity of the well location and, if located, minimising effects on sensitive environments by meeting a 6.5 mm drill cuttings deposition threshold;

- **(c)** Undertaking the drilling works continuously and in the shortest possible time (approximately 40% of time on location);

- **(d)** Minimising the spatial extent of disturbance to only that which is required to complete the drilling activities and associated operations;

- **(e)** Plugging the wells and removing items on the seabed following completion of the exploration activity;

- **(f)** Using the least ecotoxic chemicals possible for the drilling activities and primarily WBM drilling fluids with the majority being recycled;

- **(g)** In the event that SBM is used, collecting cuttings and transporting them back to shore for disposal at an approved treatment facility, while capturing and re-using the synthetic fluids;

- **(h)** Following a strict process for cement works at each well site with cement being specifically formulated to be fit for purpose at each location;

- **(i)** Using technology that will limit smoke and fallout from flaring activities on the MODU;

- **(j)** Whenever possible, undertaking drilling operations in seasons when metocean conditions are at their most benign, resulting in the MODU being on location for the shortest practical time; and
(k) Ensuring an MNZ approved Offshore Installation Oil Spill Contingency Plan (OIOSCP) and a Well Control Contingency Plan (WCCP) are in place before the commencement of drilling operations.

262. In addition to the above, OTL also state that the location of the AOI, over 28 km at its closest inshore point and in water depths of approximately 110 m, provides a degree of mitigation with respect to sensitive coastal habitats. The depth of water, combined with the high-energy marine environment, will rapidly disperse drilling cuttings and associated drilling fluids as well as aid in the mixing and dilution of harmful substance discharges. The near-seabed currents will assist in the recovery of any disturbance to the sea floor with sediment in-filling and opportunistic species are expected to re-colonise any disturbed areas or drill cutting piles based on previous pre and post-drill monitoring programmes that have been conducted in the Taranaki Basin.

8.2.4 Findings on Biological Environment Effects

263. We find that the existing environment, including the AOI and beyond, is well defined and has been the subject of considerable monitoring as a result of current and previous petroleum, mining and appraisal activities. This was relied upon by OTL in their IA and associated documents.

264. As our understanding of the actual and potential effects of the drill cuttings deposition on the benthic environment (including sensitive environments) derives primarily from OTL’s modelling, the validity and reliability of the model and its outcomes are important.

265. Following our review of the Joint Statement on Modelling\(^{39}\), we note that the experts agreed there are benefits of additional modelling. However, the outcomes of any further modelling would not materially affect the deposition profiles and TSS concentrations as expressed in the modelling which informed the IA. Therefore, for the purposes of the effects assessment, we accept that the modelling used in the IA was appropriate.

266. We accept that the highest potential risk of significant adverse effects on the biological environment will occur if the activities adversely affect any sensitive environments. While the baseline monitoring indicates that no sensitive environments are likely to be present at the Māui-8 well site, their occurrence or presence in and around the remaining future well sites (the locations of which are yet to be determined) cannot be dismissed. We accept that pre-drill monitoring for Māui-8 will be done pursuant to the Permitted Activity Regulations and not under the marine consent. We note that OTL identified in their Proffered Conditions (Advice Note to Condition 2\(^9\) of the Marine Consent) that the pre-drill monitoring for Māui-8 will still be done in accordance with the EMP.

267. For other well sites, we are satisfied that the proposed pre-drill monitoring and proposed actions, should sensitive environments be found, are appropriate to avoid significant adverse effects on any sensitive environments that may be present. This process is to be clearly set out within the EMP as required by the conditions.

268. Regarding the sediment depositional threshold, we accept that OTL’s proffered threshold of 6.5 mm is appropriate as this has been adopted for other EAD activities within the Taranaki Bight. We note that Mr Baxter did not provide any specific comment on the appropriateness of this threshold.

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269. We accept OTL’s environmental risk assessment of the effects of the installation and removal of any MODU on seabed disturbance. However, we agree with the position in the EPA Conditions Report that, as there is a degree of uncertainty as to what MODU(s) might be used over the duration of the consent, a MIRP is appropriate. We accept that a condition should be imposed to require such a plan and discuss this further in Section 10 – Conditions of this decision.

270. As noted above, DoC raised concerns with respect to the potential effects on marine mammals and seabirds and proposed some mitigation measures for inclusion in any consent.

271. Regarding noise impacts on marine mammals, we note there are mitigating circumstances to these effects, including the temporary nature of the noise and vibration from the drilling activities and the understood behaviours of marine mammals in the AOI. While we find that DoC’s concern with respect to constant noise has some relevance, we do not adopt DOC’s recommendation regarding the need for a 30 min observation period prior to the commencement of drilling activities because we consider the other mitigating circumstances sufficient to avoid material harm of noise impacts on marine mammals.

272. Additionally, we note that OTL have confirmed that any MODU will not use full dynamic positioning capability to maintain its location above the well and record here that if this was to change, additional marine consents may be required or a variation to the marine consent may need to be sought.

273. Regarding impacts on seabirds, we find that, given the short-term nature of the activities and the OTL’s proposed mitigation measures, any effects will be less than minor. DoC proposed three additional mitigation measures which we discuss as follows:

(a) DoC’s position is that flaring at night is a potential high risk activity - we do not find that there is sufficient justification to restrict flaring activities to only during the day and therefore, no condition has been imposed;

(b) OTL to maintain a log of any seabird collisions – we accept that this is appropriate and have provided a condition of this nature; and

(c) A plan put in place for dealing with live/injured/dead birds on vessels – we accept that this is appropriate and have provided a condition of this nature.

274. Regarding the potential impacts of discharges, we accept the conclusions and risk assessment of the environmental effects as being less than minor or negligible. However, we note that these conclusions were reached on the basis of the 19 substances identified in the ERA Discharges Report and at the volumes and concentrations identified in that report.

275. In order for us to have confidence that the actual effects will be consistent with those assessed, we have restricted OTL to use of those particular substances identified in the IA (and subsequently the ERA Discharges Report) at the maximum volume or mass as identified in the ERA Discharges Report. As discussed in Section 10.3.5. We have imposed conditions accordingly to provide for this.

276. We acknowledge that OTL wished to have a degree of flexibility with respect to this matter, by having the ability to substitute like substances. However, we do not consider flexibility appropriate for the above reason and we are not persuaded that the process for varying a condition of consent for a non-notified activity poses any material impediment to OTL. This will allow for a proper evaluation of alternative substances. We note that this position is consistent with that adopted by other DMCs.
277. Overall, we find that the risks to the biological environment associated with activities for which marine consent and marine discharge consent is sought, including cumulative effects (which are discussed below), are, at worst, *moderate*. The scale of adverse effects on various elements of the biological environment are at worst *minor*, for many of the elements the rating is *negligible*.

278. Adverse effects are generally localised, will occur for a relatively short duration, and recovery of benthic environments that are directly and indirectly affected will begin once the drilling activities and the associated deposition cease at each well site. We accept that mitigation measures will further ensure that effects are consistent with those identified in the IA.

279. Where necessary, we have provided further discussion on the marine consent and marine discharge consent conditions as they relate to the biological environment in Section 10 below.

### 8.3 Cumulative Effects

#### 8.3.1 Discussion

280. Section 7.8 of the IA identifies that cumulative effects could arise through three routes, being:

(a) The various planned activities which are the subject of OTL’s application;

(b) Other activities associated with the Māui EAD Programme, including harmful substances discharges, drill cutting deposition, and overlapping of areas of impact; and

(c) Other activities occurring within and outside the AOI, including fishing and maritime effects, and the effects of land based and coastal discharges and marine based activities.

281. OTL assessed the cumulative effects on the various environmental receptors associated with the planned activities identified in the table (Table 7) below:

*Table 7 - Cumulative Effects on the various environmental receptors associated with the planned activities (refer to Section 7.8.1 of the IA)*

<table>
<thead>
<tr>
<th>Environmental Receptor</th>
<th>‘Driver’ Activity of Environmental Risk/Effect (i.e. activity with most significant effect on receptor)</th>
<th>Cumulative Effects of Proposed Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consequence</td>
<td>Likelihood</td>
</tr>
<tr>
<td>Benthic communities</td>
<td>Effects associated with discharge and deposition of drill cuttings and drilling fluids</td>
<td>2 – Moderate</td>
</tr>
<tr>
<td>Marine mammals</td>
<td>Effects associated with supporting activities – Ship strike</td>
<td>1 – Minor</td>
</tr>
<tr>
<td>Seabirds</td>
<td>Effects associated with supporting activities – Disturbance impacts</td>
<td>1 – Minor</td>
</tr>
<tr>
<td>Pelagic environs</td>
<td>Effects associated with supporting activities – Effects of explosives</td>
<td>1 – Minor</td>
</tr>
</tbody>
</table>
282. Regarding cumulative effects of the planned activities, Mr Baxter stated \(^\text{40}\) that:

... I concur with the overall conclusions ... of a Moderate cumulative ER [Environmental Risk] for benthic communities and Low cumulative ERs for marine mammals, seabirds and the physical and other biological aspects of the pelagic environs.

283. Cumulative effects from other activities associated with the Māui EAD Programme include the discharges from the hazardous deck drains and the potential for drill cuttings from the drilling at MPA and MPB to overlap with the AOI. OTL concluded that the overall environmental risk of adverse effects occurring, and the predicted magnitude of environmental impact as being negligible.

284. Cumulative effects of other activities occurring within and outside the AOI include commercial and recreational fishing, maritime shipping, oil & gas activities, seabed mining, tourism, and marine scientific research. OTL concluded that the overall environmental risk of adverse effects occurring, and the predicted magnitude of environmental impact as being negligible.

285. OTL state that the key considerations for incorporation into their Environmental Risk Assessment (ERA) for cumulative effects are the temporary nature of the drilling activity at each well location within the AOI (up to 90-day for the success case period), the presence of a 500 m Non-Interference Zone in place at all times around the MODU (and its anchors if used) preventing unauthorised access to the operational environment, deposition modelling results, pre-drill benthic survey data collected prior to any drilling, the anticipated 2 km separation between well locations, and exclusive right of OTL to drill within PML 381012 in accordance with the terms of PML 381012.

286. OTL further identified that monitoring results from the Taranaki Basin indicated that the presence of drilling-related materials can occur as far out as 4 km from an exploration well along the primary deposition pathway if elevated barium concentrations in the sediments are used as a measure of such effects. Given the properties of barium, these results out to 4 km could also be due to the resuspension of the fine sediments in the high-energy transporting the barium away from where it was initially deposited.

287. While barium is a marker for drilling, it does not pose a significant toxicity risk. With regards to other substances, we note that the ERA Discharge Report specifically considered the impact of those identified as hazardous discharges and found that even under a worst-case scenario discharge event the assessment predicted a negligible level of risk to the marine environment at 1,748 m from the point of discharge. Therefore, we accept the anticipated 2 km separation distance between well locations is appropriate to achieve a negligible cumulative effect for discharges.

8.3.2 Findings

288. As we have not received any information stating otherwise, we accept OTL’s conclusions on the overall environmental cumulative effects from the identified three pathways.

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\(^\text{40}\) Seapen Marine Environmental Services, EEZ200011: OMV Taranaki Limited marine consent and marine discharge consent applications – Māui Exploration and Appraisal Drilling Programme, Review of exploration drilling and discharge applications, 22 January 2020 - paragraph 44.
8.4 Existing Interests

289. Section 4 of the EEZ Act defines ‘existing interest’ as being the interest a person has in:

   a) any lawfully established existing activity, whether or not authorised by or under any Act or regulations, including rights of access, navigation, and fishing;
   b) any activity that may be undertaken under the authority of an existing marine consent granted under section 62:
   c) any activity that may be undertaken under the authority of an existing resource consent granted under the Resource Management Act 1991:
   d) the settlement of a historical claim under the Treaty of Waitangi Act 1975:
   e) the settlement of a contemporary claim under the Treaty of Waitangi as provided for in an Act, including the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992:
   f) a protected customary right or customary marine title recognised under the Marine and Coastal Area (Takutai Moana) Act 2011.

290. The DMC took a broad approach regarding the MACA Act claims and the DMC has considered all claims whether they have been resolved or not.

291. Section 5.1 of the IA identifies those persons and organisations which OTL consider have existing interests, in relation to the planned activities for which marine consent is sought.

292. In terms of clause (a) of the EEZ Act definition of existing interest, the IA identified the following existing interests:

   (a) Commercial fishers who hold quota and use the area as part of their fishing activity; and
   (b) Maritime traffic (shipping).

293. Regarding maritime traffic, which includes commercial shipping, there are no dedicated shipping channels into or out of ports in New Zealand. As a result, vessels travelling in the waters around New Zealand (including the AOI) generally take the most direct or shortest route possible, provided it is safe to do so. Given the transient and temporary nature of maritime traffic, and a ship’s ability to move to avoid conflicting activities, maritime traffic and commercial shipping is not considered to have an existing interest affected by the activities associated with the Māui EAD Programme.

294. OTL state that there are no current marine consent or marine discharge consent applications within or in proximity to the AOI, other than those in favour of OTL and its parent company OMV. As such, OTL identify there are no marine consent or marine discharge consent holders who are considered to have an existing interests affected by this application in respect of clause (b) of the EEZ Act definition of existing interest. We note that Tamarind Taranaki Ltd, while in liquidation, hold (currently held by the receivers/liquidators) a marine consent for activities in proximity to the AOI and therefore, they are an Existing Interest for the purpose of these consents.

295. Given that the AOI is approximately 6.4 km offshore from the Coastal Marine Area (CMA) boundary at its closest point, there are no existing resource consent holders who are considered to have existing interests affected by the application in respect of clause (c) of the EEZ Act definition of existing interest.
296. There are a number of statutory acknowledgement areas that have been established through the settlement of historic claims under the Treaty of Waitangi Act 1975 by the Crown. Section 4.4.2 of the IA states that there are seven Statutory Acknowledgements of potential relevance to the application. These areas are identified within the CMA area of Taranaki, Manawatu and Whanganui but do not extend out to the EEZ or the AOI specifically. Given that the initial (Māui-8) well is located over 16.5 km offshore from the CMA and that there are no current settled historical claims under the Treaty of Waitangi Act which are likely to be adversely affected by OTL’s application, part (d) under the existing interest definition does not apply.

297. In terms of clause (e) of the EEZ Act definition of existing interest, the IA states that iwi hold customary fishing rights under the Fisheries (Kaimoana Customary Fishing) Regulations 1998 which stem from the Treaty of Waitangi (Fisheries Claim) Settlement Act 1992 and provide for the customary harvesting of kaimoana for special occasions. Under the regulations, customary fishing rights can be exercised by commercial fishing vessels on behalf of the holder of the customary fishing right. There are three types of customary fishing areas recognised under the legislation: Rohe Moana, Mātaitai and Taiāpure.

298. The AOI is located offshore of two rohe moana namely; Ngāti Haumia Rohe Moana and Titahi-Ngaruahine Rohe Moana. The IA states that an additional rohe moana, the ‘Deepwater Customary Pataka’ has been proposed but not yet formalised.

299. The IA states that the AOI is located a significant distance from any Mātaitai Reserve (107 km to the closest Mātaitai Reserve – the Kaihoka Mātaitai). Based on the zone of influence from the activities for which consent is sought, a detailed discussion on Mātaitai Reserves is not considered necessary.

300. The IA states that the AOI is located a significant distance from any Taiapure (153 km to closest Taiapure – the Whakapuaka Taiapure). Based on the likely zone of influence from the activities for which consent is sought, a detailed discussion on Taiapure is not considered necessary.

301. Further, under the Māori Fisheries Act 2004 recognised iwi were allocated fishery assets such as fishing quota and shares in Aotearoa Fisheries Limited which is managed and overseen by Te Ohu Kaimoana (the Māori Fisheries Commission). Because Te Ohu Kaimoana oversees quota holders within the AOI, OTL has treated them as a potentially affected existing interest.

302. Section 4.4.3.4 of the IA identifies that there are two Fisheries Forum active with respect to the wider coastal environment being:

(a) The Te Taihauāuru forum covers the western side of the lower North Island from the Mokau River south to Waikanae; an area known to iwi as the ‘rohe of Te Taihauāuru’. The goal of this forum is to collaborate on fisheries management issues for the benefit of present and future generations while recognising and providing for traditional relationships of iwi and their customary interests (commercial and non-commercial); and

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41 NOTE: The Fisheries New Zealand s56 response identified that the Te Tai Hauāuru deepwater rohe moana has now been gazetted.
303. The IA stated that, under part (f) of the definition of existing interest, any protected customary right or customary marine title recognised under the MACA Act is an existing interest. Table 43 of the IA identifies the range of applications under the MACA Act that are located within the broad vicinity of the AOI but are yet to be decided upon. The DMC noted that not all hapū and iwi participating in these outstanding claims are part of the CAG and the applicant should consider this matter when engaging with the wider Taranaki community.

304. In summary, Section 5.1.7 of the IA states that based on the definition of existing interests in section 4 of the EEZ Act, those parties that have existing interests that could potentially be affected by this application are the Deepwater Group, Te Ohu Kaimoana, and the associated quota holders. We accept those parties identified by OTL but also note that Tamarind Taranaki Ltd also have an Existing Interest.

305. Sections 5.2 (Existing Interests) and 5.3 (Iwi and Stakeholder Groups) of the IA provide a summary of the engagement undertaken by OTL prior to lodgement of the Application, and records OTL’s commitment to undertake effective engagement as part of its operational and exploration activities. OTL provided further details of the engagement with stakeholders, including those parties with existing interests, as part of their further information response #1 and #2.

306. OTL has assessed the effects of the planned activities under the Māui EAD Programme on its identified existing interests and cultural values using the same ERA used for the biological environment (i.e. based on consequence and likelihood of an effect occurring). These assessments are presented in Section 7.5 of the IA.

307. We are required to identify all existing interests that may be affected by the activities and explain what effect the activity may have on them. In order to have the best available information on existing interests held by Māori in the area, and to understand the potential effects of the application on those interests, we sought further information from NKTT.

308. Specifically we requested further information on any existing interests held by Māori in the area that were not included in the IA. On 16 April 2020 we requested further information from NKTT on all those who have unresolved MACA Act claims in the Taranaki area. On 24 April 2020 NKTT responded, highlighting the following MACA Act claims from the Taranaki area that were not included in the IA:

   (a) Maria Robinson on behalf of Ngati Manuhikai - Customary Rights (The foreshore and seabed within the tribal takiwa of Ngati Manuhikai; from Waingongoro River in the South to the Wahamoko Stream in the north west);

42 The customary rights and interests that form MACA Act claims are relevant under subsection (a) in the definition of existing interest in section 4 of the EEZ Act.
309. We note that some of the MACA Act claims do not have an area that is in the AOI for the activity.

310. The following sections present the effects on persons with existing interests. Because Māori have existing interests across a number of the categories, we have included a separate section on ‘Māori Existing Interests.’

8.4.1 Effects on Existing Interests

8.4.1.1 Commercial Fishers

311. Section 7.5.1 of the IA stated that commercial fishers who hold quota and use the area as part of their fishing activity had an existing interest in the application and although a variety of species were targeted during this assessment period, commercial fisheries within the offshore waters of Fisheries Management Area 8, specifically within the Māui Field, consist of a midwater trawl fishery targeting jack mackerel.

312. Fisheries New Zealand confirmed that OTL’s list of commercial fisheries species provided in Section 4.5.1 of the IA 'is an accurate and comprehensive account of the key commercial species caught' in the AOI. They also stated that the EAD operations within the AOI 'are likely to have a negligible impact on the commercial fishery species, especially considering the mobile nature of species and the small area to be affected.'

313. Section 7.5 of the IA states that, regarding planned events, during the period for which the MODU is in New Zealand waters, a 500 m Non-Interference Zone will be in place which will restrict the passage of unauthorised vessels within 500 m of the MODU. This will be provided for through the Maritime Transport Act 1994.

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314. The COSL Prospector, and any additional MODU used, would have a 500 m Non-interference Zone in place once it enters New Zealand waters which would restrict the passage of vessels within a 500 m radius of the MODU, and this will likely have the biggest impact on commercial fishing operations. However, this exclusion zone will be temporary in nature while the MODU is stationary within the AOI, with the expected timeframe being approximately 90 days for the first exploration well (Māui - 8) in a successful case. This small area of exclusion (<1 km²) is considered to be negligible in comparison to the wider Taranaki Bight area in which commercial fishers can operate. This position is supported by Fisheries New Zealand who stated that the ‘impacts on fisheries, as a result of effectively closing the area of interest to fishing would appear to be low.’ Therefore, it is considered that the presence of the MODU is unlikely to impact commercial fishers’ ability to catch their quota.

315. Regarding the discharge activities, any potential effects will be highly localised as the zone of influence from these discharges on pelagic species (such as the target species of commercial fishers) is within 200 m of the discharge point. An exception to this, is the zone of influence on benthic communities through the release of drill cuttings and the associated discharge of drilling fluids. However, as discussed previously in this decision, this will not impact on commercial fishing interests as the discharge of harmful substances would not directly affect those deepwater fishers in any way.

316. The IA also identified other measures that will minimise any adverse effects on commercial fishing including:

(a) Operational procedures will be implemented to ensure the commercial fishing industry is kept well informed in advance of any activities taking place and they will also be notified when activities are complete;

(b) The fortnightly distribution of the Notice to Mariners will also provide another means of communication as to the location of the MODU and the exclusion zones in place;

(c) The MODU and associated support vessels will have Automated Identification Systems that will transmit key information from the MODU and support vessels;

(d) Once testing is completed, wells will be sealed and structures and other items will be removed from the seabed reducing any risks to bottom-trawlers; and

(e) Commercial fishing interests will be consulted with regarding the Maui EAD Programme and the proposed well locations and will be kept fully informed as to the timings of both commencing and completing.

317. Where appropriate, these have been included in OTL’s Proffered Conditions.

318. Overall, OTL has assessed the risks to, and effects on, commercial fishing as negligible.

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44 Ibid – Response 3b.
8.4.1.2 Māori Existing Interests

319. Under sections 12(c), 59(2)(a) and (b) of the EEZ Act, the DMC must take into account any effects on the environment or existing interests of allowing the activity. The IA identified the Deepwater Group and Te Ohu Kaimoana (and associated quota holders) as the parties who hold existing interests in accordance with section 4 of the EEZ Act.

320. We note that NKTT consider that the cultural environment and Māori existing interests in the IA are not well-framed nor contextualised and they consider this represents an information gap in the context of section 59(2) of the EEZ Act that needs to be further explored by us. In light of NKTT’s advice, we requested further clarification on these matters. NKTT provided two Addendum Reports (NKTT Addendum) on 13 March 2020 and 24 April 2020.

321. As a result, in addition to the description of the cultural environment and identification of Māori Existing Interests within the IA, we have taken into account the relevant issues raised within the NKTT Report, and Addendums, as part of the assessment as outlined in Section 8.4.2.2. (findings).

322. We accept that there are Māori interests which fall into one or more of the definitions of ‘existing interest’ under the EEZ Act. Additionally, there are cultural, spiritual, and metaphysical values that underpin many of these interests, including cultural values and associations of those iwi. These matters are addressed later in this decision report (refer to Section 8.4.1.2.4).

323. The following sections discuss the effects of the planned activities on the various interests that Māori have in and around the AOI.

8.4.1.2.1 Commercial Fishing

324. Under the Māori Fisheries Act 2004, recognised iwi were allocated fisheries assets such as fishing quota.

325. The effects on these interests have been considered under the commercial fishers section above and, outlined in Section 7.5.1 of the IA. OTL has assessed the risks to, and effects on, commercial fishing as negligible.

8.4.1.2.2 Customary Fishing

326. Section 4.4.3 of the IA stated that kaimoana:

(a) Provides sustenance for tangata whenua;

(b) Is an important food source for whānau (family); and

(c) Is vital for provision of hospitality to manuhiri (guests).

327. The IA noted that traditional management of the marine environment entails a whole body of knowledge on the sea’s natural resources, their seasonality and the manner in which they can be harvested. The importance of each species of kaimoana varies between iwi/hapū, which is also based on what kaimoana species live and grow within and surrounding their rohe.

328. The IA stated that, separate from, and in addition to, commercial fisheries assets provided under the Māori Fisheries Act 2004, iwi hold customary fishing rights under the Fisheries (Kaimoana Customary Fishing) Regulations 1998. Under these regulations, tangata whenua may issue permits
to harvest kaimoana in a way that exceeds levels permitted in standard practice in order to provide for hui (a gathering or meeting), tangi (funeral) or as koha (a gift, donation or contribution). There are three types of recognised customary fishing rights: rohe moana, mātaitai, and tāiāpure.

329. As stated earlier, the rohe moana of relevance to the AOI are:

(a) Ngāti Haumia Rohe Moana (south of Cape Egmont – inshore of AOI); and

(b) Titahi-Ngaruahine Rohe Moana (south of Cape Egmont – inshore of AOI).

330. Drilling locations associated with the Māui EAD Programme are located a significant distance from any Mātaitai reserves and Tāiāpure area.

331. The IA noted that customary fishing rights are in addition to recreational fishing rights and do not remove the right of Māori to catch their recreational limits under the Fisheries Amateur Fishing Regulations 2013.

8.4.1.2.3 Customary Marine Title and Protected Customary Rights

332. Iwi, hapū, or whānau groups may be granted recognition of two types of customary interest under the MACA Act:

(a) Customary marine title; and

(b) Protected customary rights.

333. The IA states that customary marine title recognises the relationship of an iwi, hapū, or whānau with a part of the common marine and coastal area and that protected customary rights may be granted to allow for customary activities such as the collection of hāngi stones or launching of waka.

334. Table 43 of the IA listed the applications that have been lodged under the MACA Act in the vicinity of the AOI and this list was updated by NKTT in their 24 April 2020 Addendum. We requested further information on any existing interests held by Māori in the area that were not included in the IA, as discussed above at paragraph 308.

8.4.1.2.4 Cultural Values

335. The DMC acknowledge the importance of the cultural, spiritual, and metaphysical values that underpin many of the Māori interests discussed in the previous sections.

336. Section 5.3.1 of the IA details the consultation with iwi and states that OTL has sought to meet with the following iwi and hapū in relation to the Māui EAD Programme:

(a) Te Kotahitanga o Te Atiawa;

(b) Manukorihi hapū;

(c) Otaraoa hapū;

(d) Ngati Rahiri hapū;

(e) Ngati Te Whiti hapū;
(f) Puketapu hapū;
(g) Tawhirikura hapū;
(h) Te Kāhui o Taranaki;
(i) Te Korowai o Ngaruahine Trust;
(j) Ngati Ruanui; and
(k) Te Rūnanga o Ngāti Mutunga.

337. In addition to meetings, representatives from each of the above iwi and hapū were also sent a draft of this application for their feedback. OTL stated that wherever possible their feedback has been taken into account with regards to this application. We record here that we do not know the nature or content of this feedback given the confidential nature of the meetings as ascribed by OTL.

We also record here that OTL have stated their commitment to continue consultation with iwi who are considered to be adversely affected by the Māui EAD programme, which includes those hapū who are not listed above but are in the MACA Act list provided by NKTT in their second Addendum report.

338. We note that DoC suggested that the Te Tau Ihu o te Waka-a-Māui iwi (which encompasses the eight iwi of the northern South Island) are included in OTL’s ongoing consultation, for the duration of their activities in the Taranaki region, as they have significant seabird colonies which often visit or occupy areas throughout the Taranaki rohe. Noting DoC’s recommendation, based on the mitigation measures identified for seabirds, we do not consider it is necessary to include the Te Tau Ihu o te Waka-a-Māui iwi in OTL’s ongoing consultation.

339. Section 7.5.4 of the IA stated that to address any potential effects on cultural values, OTL is committed to ongoing consultation with the iwi and hapū listed in paragraph 336. This will ensure that these groups remain informed with regards to the Māui EAD Programme and have the opportunity to influence operations.

340. As part of their further information response #2, OTL set out the consultation undertaken with parties to date which included in numerous meetings and workshops (targeted at the collective stakeholder group and also individuals groups), the provision of opportunities for feedback on the proposed activities and also the proffered conditions, and also their commitment to ongoing engagement with iwi and hapū entities.

341. OTL report that consultation with a wide range and iwi and stakeholders has been occurring over many years through its existing community advisory groups (Taranaki EAD CAG and Māui EAD CAG). OTL propose to continue to consult with these groups throughout the duration of the planned activities.

46 OTL, Further Information Request #2 – EEZ200011- response to Question 3.
342. The NKTT Report does not provide any commentary on the adequacy of consultation with Māori/iwi. The report stated that without having viewed feedback from iwi on the draft copy of the application, as well as no letter of support or confirmation of engagement/consultation nor any minutes or records of consultation undertaken for this application, it is considered by NKTT that OTL have not adequately considered and accommodated for the effects identified above on existing interests in their IA.

343. The NKTT Report states that although the IA acknowledges customary non-commercial fisheries, it compartmentalises the Māori worldview and its authority/existing interests to defined areas (Taïāpure, Mātaitai, etc.), when in fact the cultural context extends wider into the marine environment.

344. The NKTT Report views that the exercise of guardianship and stewardship practices by Māori/iwi as kaitiaki, are lawfully established existing activities, whether or not authorised by or under any Act or regulations.

345. The NKTT Report identifies that the proposed measures to mitigate, remedy and avoid, do not consider nor provide for the wider, holistic, and integrated environmental and cultural perspective of Māori/iwi. The NKTT report concludes that, in recognising kaitiakitanga as an existing interest, the effects on this existing interest can be appropriately managed. The NKTT report then identified amendments to OTL’s two proffered condition which, in their view, addressed their concerns as follows:

(a) OTL’s Proffered Condition 13 – the condition is amended to specially address the existing interests of the Deepwater Group; and

(b) OTL’s Proffered Condition 14 – the condition is amended to reference the Kaitiaki Forum instead of the Community Advisory Group and to include Maori organisations in the group.

346. In response to the NKTT Report, OTL advised47 us that they wished to record their disappointment with the content and recommendations in the NKTT Report which they consider fails to acknowledge their extensive engagement with stakeholders and, in particular, their regular and ongoing consultation via the Māui and Taranaki EAD Community Advisory Groups.

347. Regarding the specific comments in the NKTT Report, OTL provided a number of responses to key criticisms in the report as follows:

(a) Para 3.5 – OTL rejects the conclusion that the application does not appropriately frame the Māori world view and refer the DMC to Section 4.4 of the IA which clearly sets out their acknowledgement of the high value of the marine environment by Māori and the importance of the role of kaitiakitanga and the preservation of wāhi tapu and taonga.

(b) Para 3.31 and following – OTL consider that the NKTT position on Existing Interests seems to lack any proper legal foundation. OTL record that they fully appreciate the significance of the concepts of rangatiratanga and kaitiakitanga and expect that the DMC will consider these matters under s59(2)(m) Other Matters; and

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Para 37 – OTL understand that the label ‘Kaitiaki Forum’ is not appropriate in a multi-iwi forum due to differing interpretations of kaitiakitanga. OTL recommend that the CAG label is maintained as it has wide acceptance.

Regarding the NKTT comments on conditions, OTL stated that they accepted, in principle, the amendments to Condition 13 and 14 with the exceptions of the quarterly meeting frequency (Condition 13) and change in title to Kaitiaki Forum (Condition 14).

Following the NKTT Report and OTL’s response, we sought additional information (through a further s56 of the EEZ Act request), to describe the cultural values and recognising kaitiakitanga as an existing interest. In response, the NKTT Addendum was provided from which we note the following:

(a) NKTT advised that all sections of their referenced Waitangi Tribunal Reports were relevant to in describing cultural values in the area as there was connectivity across the reports that relate to the area.

(b) They acknowledged that the definition of environment under section 4 of the EEZ Act is limited for an interpretation of cultural values.

(c) They noted that we need to consider whether the cultural advice in front of us contains the substantive detail that corresponds to the scale and significance of the proposed activities on the existing interests and the environment.

(d) They considered that the conditions and the associated amendments are to manage objectives related to the activity and its operations only, not to manage values.

We discuss our findings and these matters below and provide additional comments on the suggested conditions in Section 10 of this decision.

8.4.1.2.5 Cumulative Effects – Existing Interests

With respect to cumulative effects on existing interests, our commentary in the previous sections on the effects of the Māui EAD Programme, and our associated conclusions on the level of effects, are applicable here.

We note that OTL did not provide any specific information on the cumulative effects on cultural values. Additionally, the NKTT Report did not provide any commentary on cumulative cultural effects. Therefore, in absence of specific advice, the position the DMC has taken is that the cumulative effects on cultural values can be managed through the CAG process.

8.4.2 Findings on Existing Interests

8.4.2.1 Commercial Fishing

With regard to the effects on commercial fishing interests (including Māori commercial fishing interests), we note that Fisheries New Zealand agrees with OTL’s assessment that the effects on commercial fishing interests will be negligible and they do not consider that any measures beyond

those already required (e.g. the temporary non-interference zone) are necessary to provide for any adverse effects.

354. Therefore, for the reasons discussed in the IA and in Section 8.4.1.1 of this decision, we find that the risks of the planned activities on commercial fishing, including any cumulative effects, to be *negligible*.

355. We also acknowledge OTL’s proffered condition (Proffered Condition 13 of the Marine Consent) which requires OTL to provide all persons with existing interests (not just fisheries groups) identified in its IA, with up-to-date information on the authorised activities, including the scheduling and location of the MODU anticipated for the Māui EAD programme, and environmental monitoring undertaken in accordance with the conditions of this marine consent.

356. NKTT suggested amendments to Proffered Condition 13 that narrowed the existing interest party to the Deepwater Group solely. OTL in their FIR #2 did not oppose this recommendation from NKTT. However, the EPA Conditions Report considered that it was not appropriate to narrow the identified existing interest parties to only the Deepwater Group and that the broad reference to existing interests was correct as it was inclusive of all existing interests. We concur with the position set out in the EPA Conditions Report on Proffered Condition 13 (Final Condition 15).

357. The principles of the Treaty, particularly good faith and active protection, are directly relevant when assessing whether the interests of iwi commercial fishing interests are adversely affected by the activity. We have considered these obligations and no new issues arose that are not discussed below.

### 8.4.2.2 Māori Existing Interests

358. Under section 59(2) of the EEZ Act we must take into account any effects on existing interests of allowing the activity. We are required to identify all existing interests that may be affected by the activities and describe the nature and significance of the effects the activity could have on those interests. This includes Māori perspectives on the effects on existing interests, including cultural, spiritual, and metaphysical values in such interests and information about the values that Māori hold in the natural environment, such as values in taonga species or in the mauri of land, water, or other elements of environment.

359. Accordingly, we have taken into account the Māori interests through advice sought from NKTT and the continuation of the CAG. This includes Māori perspectives on the impacts to their interests of the proposed activities for which marine consent and marine discharge consent is sought. The DMC has sought advice from NKTT and also recognises the importance of the CAG for ongoing participation of existing interests and relationships between the applicant and existing interests.

360. In this section, we discuss our findings on Māori existing interests, which are considered under section 59(2)(a) of the EEZ Act, noting that Māori existing commercial fishing interests have been discussed in the previous section.

361. We note that consultation is not ‘required’ under the EEZ Act – that is, consultation is not mandatory. Section 39 of the EEZ requires that an IA must include identification of all those persons whose existing interests are likely to be adversely affected by the activity, to describe any consultation

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49 OTL, Further Information Request #2, 21 February 2020, response to Question 3.
undertaken with those persons, and to identify the effects on existing interests. Whilst consultation is not explicitly required by the EEZ Act, it is somewhat implicit in that to identify the persons with existing interests and to identify how the proposed activities will affect those interests will require, in most cases, consultation to occur.

362. We acknowledge the NKTT Report’s criticisms of OTL’s consultation and engagement process and the process used to outline the Māori world view.

363. We note OTL have outlined consultation it has undertaken with various parties, many of which are existing interests.

364. We consider that the engagement process undertaken by OTL has been inclusive of those parties who have a recognised existing interest as defined under the EEZ Act and also inclusive of entities further afield.

365. OTL have committed to undertake ongoing consultation with iwi and hapū groups through their proffered engagement condition to formalise this process. The condition (Proffered Condition 14 of the Marine Consent) specifically relates to iwi and requires OTL to set up a CAG. The DMC note that CAGs have been utilised for previous applications.

366. In response to the NKTT Report recommendations on Condition 14, OTL have advised that they disagree with:

(a) The recommendation to change the name from CAG to the Kaitiaki Forum;

(b) The inclusion of Te Ohu Kaimoana in this group; and

(c) The ‘blanket’ requirement for quarterly meetings irrespective of drilling activities occurring.

367. We find, based on the information available to us, that:

(a) The name of the engagement group should not be changed to Kaitiaki Forum to ensure participation in the forum is not exclusive and accounts for different interpretations of kaitiakitanga; and

(b) The requirements for meetings should be linked to the timing of the drilling activities, particularly due to the 30 year duration sought by OTL, as this allows for sufficient active participation of Māori/iwi in throughout the EAD programme.

368. We note that the NKTT Report commented on the need to recognise kaitiakitanga as an existing interest. We note that OTL also acknowledged the concepts of rangatiratanga and kaitiakitanga and that these were used to inform the application. We accept kaitiakitanga and rangatiratanga are existing interests and have incorporated these concepts into our considerations of the effects of the activity on existing interests.

369. Following the NKTT comment that there was no evidence or support from iwi and hapū that OTL had adequately considered and accommodated cultural effects, we specifically requested a response from OTL on this matter. We accept their position, as set out in FIR #2, that iwi engagement,

50 OTL, Further Information Request #2, 21 February 2020, response to Question 3.
relationships with iwi and other stakeholders are important and are undertaken in good faith, mutual understanding, and on a confidential basis.

370. We are not aware of any request by OTL for stakeholder support or acknowledgement. However, we note that support from any existing interest party is not a requirement under the non-notified provisions of the EEZ Act.

371. We note that OTL provided a draft copy of the IA and supporting documents to iwi and hapū for feedback and they stated that, wherever possible this feedback has been taken into account. We have not been provided any evidence to support this either from OTL or from iwi or hapū.

372. Regarding the NKTT Addendum, the DMC:

(a) Are restricted to the legal interpretation of the environment under section 4 of the EEZ Act and NKTT agree that cultural values will be limited in this description with that interpretation;

(b) Find that the impacts of the Māui EAD programme on Māori existing interests have been discussed earlier in Section 8.4.2.1 of this decision; and

(c) Are required to identify all existing interests and explain what effect the activity may have on those existing interests that are not specified in the IA.

373. Taking into account the information provided by NKTT and OTL, we have made an assessment on whether we have the best available information in respect of effects on existing interests, mindful of the non-notified activity status for activities for which consent is being sought. We also note that our duty to obtain the best available information is not an open-ended requirement, rather we need to be mindful of issues of time, cost, and effort in obtaining information – the “best available” is not the same as all possible information.

374. We have determined that we are able make our decision as we consider we have the best available information on existing interests and the impacts of the Māui EAD Programme on these, having taken into account:

(a) The nature of the activity before us including the extent of activity, its location and duration;

(b) The low sensitivity of the receiving environment as confirmed by expert advice, including in terms of existing interests;

(c) The risk of significant adverse effects occurring from the planned events that are part of the application; and

(d) The historical operations within the Taranaki Bight which includes the AOI.

375. We consider it appropriate that OTL continue to engage with those iwi and hapū with existing interests and note that the proffered conditions (Condition 16 of the marine consent) include a commitment for at least quarterly meetings during drilling operations with representatives from the groups listed in Section 5.3.1 of the IA. This allows continued participation of affected iwi and hapū in the consented activities.

376. We find that, based on the best available information position outlined above, the amended conditions adequately deal with any actual or potential adverse effects of the consented activities on
existing interests held by Māori, including any cumulative effects. Further we find that there will be no adverse cumulative cultural effect.

377. We have provided further discussion on the marine consent and marine discharge consent conditions as they relate to existing interests in Section 10 below.

8.5 Effects on Human Health of Discharges of Harmful Substances

378. Section 59(2A)(b) of the EEZ Act requires us to take into account the effects on human health of the discharge of harmful substances. As stated in Section 7.6 of the IA, the key potential effects on human health related to the application are:

(a) Direct exposure to the discharge; and

(b) Consumption of fish that have been exposed and contaminated by the discharge.

8.5.1 Direct Exposure

379. The potential for direct exposure of the discharge to humans is remote given the distance of the operations offshore, with the closest part of the AOI approximately 30 km from shore. Additionally, when considering the low concentrations of any harmful substance discharged and the rapid dissipation and dilution of any such discharge, the potential for any discharged harmful substance reaching the shoreline at a concentration that could impact human health is extremely remote.

380. In terms of direct exposure within the AOI, a 500 m Non-Interference Zone will be imposed by way of a Notice to Mariners, which requires other users to remain outside of this area – and is well beyond the 200 m mixing zone for any discharge. The IA confirm that this zone will be applied to any MODU(s) used for the Māui EAD programme. Therefore, this will prevent any human contact within 500 m of any discharge.

381. The health of workers on-board the MODU when on location, is subject to the requirements of the HSW Act, which is administered by WorkSafe. Therefore, we have not considered related matters further but do note that the IA considers these matters.

8.5.2 Consumption of Contaminated Fish

382. The main commercial fish species in the AOI is jack mackerel. If any fish enters the 200 m mixing zone during a discharge from the MODU, it will only experience brief and low-level exposure, because of the low concentrations of any discharge entering the marine environment and the rapid dissipation and dilution that will occur.

383. Furthermore, no commercial fishing can take place near the MODU(s) within the 500 m Non-Interference Zone. Additionally, commercial fishers will also be expected to observe the 5 nautical mile (nm) ‘best practice’ avoidance zone for offshore installations identified under the New Zealand Nautical Almanac.

384. Overall, due to the brief and low-level exposure to fish, combined with the 500 m Non-Interference zone, we find that the potential adverse effects on human health arising from the discharge of harmful substances from the Māui EAD Programme to be negligible.
8.6 Unplanned Events

8.6.1 Introduction

385. The IA identifies a number of unplanned events that could potentially occur, namely:

(a) Oil spill from loss of well control;
(b) Fuel spill from refuelling operations;
(c) Vessel collision;
(d) Biosecurity incursions; and
(e) Dropped objects.

386. While these are not activities OTL seeks consent for, an assessment of the potential impacts of unplanned activities is included because, while they have a very low probability of occurring, some of them will have high potential impacts if they eventuate.

8.6.2 Environmental Risks

387. Section 7.9 of the IA presents an assessment of the environmental risks of unplanned events using a different ERA than was used for planned events (i.e. the approach used for unplanned activities is for the likelihood of the activity occurring, rather than the likelihood of an effect occurring).

388. OTL concludes that the use of a zone of influence and a zone of reasonable mixing in the ERA process for planned activities is not appropriate for the assessment of unplanned activities. OTL therefore proposes to implement a number of control measures and operational procedures to reduce the potential for any such unplanned activities to occur to As Low As Reasonably Practicable (ALARP).

389. We accept this is standard industry best practice and adopt that approach and the above assessment for the purposes of this decision.

390. Of all the unplanned events, an uncontrolled oil spill from a well blowout or loss of well control poses the greatest risk. In the event of a significant hydrocarbon spill, coastal ecosystems, marine mammals and seabirds are most at risk; however, benthic ecosystems and cultural and socio-economic values are also vulnerable.

391. OTL has assessed the environmental risk and magnitude of environmental impacts based on the likelihood of such an event happening as being either ‘rare’ or ‘remote’, but with the consequence as being either ‘low’, ‘minor’, ‘moderate’, ‘severe’ or ‘catastrophic’ – depending on its scale of effect (i.e. geographical area and receptors affected.). The overall environmental risk of adverse effects of loss of well control occurring and the significance of that effect (e.g. species level) has been assessed as follows:

(a) Marine mammals - moderate, with the predicted magnitude of environmental impact being minor.
(b) Seabirds - moderate, with the predicted magnitude of environmental impact being minor.
(c) Fish - low, with the predicted magnitude of environmental impact being less than minor.

(d) Plankton and Primary Producers - low, with the predicted magnitude of environmental impact being less than minor.

(e) Benthic Environ - moderate, with the predicted magnitude of environmental impact being minor.

(f) Existing Fisheries Interests - moderate, with the predicted magnitude of environmental impact being minor.

392. OTL notes that spills from exploration and appraisal activities are rare in New Zealand’s petroleum exploration history and that, to its knowledge, there have been no loss of well control events resulting in significant volumes of oil being spilled to the sea in the history of oil and gas exploration in New Zealand. Records show that over 200 wells have been drilled offshore in New Zealand, with no loss of well control incidents resulting in the release of oil to the sea from any of these wells.

393. OTL modelled an oil spill trajectory for the Māui-8 well site, the outputs and findings of which are summarised in Sections 7.9.1.1 of the IA and not repeated here.

394. The EPA engaged an external expert (Mr Justin Rogers of Coffey) to review OTL’s oil spill modelling. The review found that, there were inconsistencies that affected the model reliability. As a result, we directed, via Minute 3, expert conferencing on matters associated with hydrocarbon dispersion modelling.

395. The Joint Statement on Modelling identified there was agreement between the experts that additional work should be undertaken to provide further certainty with respect to the hydrocarbon modelling outcomes.

396. We note that this finding does not allow the DMC to reach any conclusion on the oil spill trajectory that might arise from an oil spill event. Overall, we acknowledge that the effects of such an event would be significant but the likelihood of an occurrence is rare, and the controls in place are appropriate to address the effects of any likely oil spill.

397. Section 7.9.1.3 of the IA presents information on the measures OTL proposes to implement and comply with in order to reduce the likelihood of a well blow-out or loss of well control. The key mitigation measures are:

(a) All operations will be undertaken in accordance with Good Oilfield Practice;

(b) Extensive planning and peer review is involved in the design of each well. This includes information on the underlying stratigraphy and anticipated formation pressures;

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(c) A vessel-specific Safety Case will be prepared by the MODU operator and submitted to WorkSafe for approval prior to the commencement of operations of the MODU;

(d) Prior to the drilling of each well associated with the Māui EAD programme, OTL will commission hydrocarbon spill modelling at any well which has not already been modelled, in order to predict potential dispersal and beaching associated with an accidental oil spill;

(e) An approved OIOSCP and a WCCP will be in place before the commencement of drilling operations as required by the Maritime Protection Rules Part 131;

(f) An Emergency Spill Response Plan (ESRP) will be in place before the commencement of drilling operations as required by Regulation 24 of the D&D Regulations;

(g) OMV owns and operates spill recovery equipment and associated trained offshore support vessels with storage facilities for oil recovery in the Taranaki offshore area that can be mobilised and deployed in the event of a spill;

(h) A pressure-tested BOP attached to the subsea wellhead system will be used to shut in the well in case of any loss of well control situation;

(i) OMV has a global contract with Oil Spill Response Limited to assist in the response to a large spill. In addition, OTL also has a global contract with Wild Well Control Incorporated for the provision of specialist well control and source control personnel and equipment. In the unlikely event of a large spill or loss of well control event, both companies are on standby for mobilisation to New Zealand 24 hours a day, 365 days a year; and

(j) All vessels (including the MODU) involved in the Māui EAD programme will have an approved and certified Shipboard Marine Pollution Emergency Plan and an International Oil Pollution Prevention Certificate (as per the International Convention for the Prevention of Pollution from Ships (MARPOL) requirements and Marine Protection Rules Part 130A and 123A).

398. The EPA’s external expert on oil and gas operational activities (Mr Broomhead from OGS) noted\(^54\) that OTL was committed to following industry best practice by adopting the ‘Environmental Best Practice Guidelines for the Offshore Petroleum Industry’ produced jointly by the Ministry for the Environment and MNZ, and Good Oilfield Practice as set out in Appendix J of the IA.

399. The DMC requested\(^55\) (on the recommendation of OGS) further information from OTL on a number of related matters including:

(a) How has OTL given effect to best practice across all aspects of the application, specifically in relation to the Good Oilfield Practice; and

(b) A response to the matters for clarification mentioned in Appendix 11 of the “Technical Review and Analysis of Operational Activities” assessment report undertaken by OGS.

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\(^55\) EPA Request for further information from OMV Taranaki Limited (OTL) -10 February 2020, Questions 1, 2 and 4.
400. In its response OTL:\(^{56}\):

(a) Advised that good oilfield practice has been the basis for the application and they identified a range of standards which constitute ‘Good Oilfield Practice’ that has been applied to well design; and  

(b) Responded to the nine points of clarification identified in Appendix 11 of the OGS Report.

401. Subsequently, Mr Broomhead confirmed:\(^{57}\) that OTL ‘… has adopted industry best practice and adhered to industry norms…’

402. Worksafe confirmed in its s56 response:\(^{58}\) that OTL is required to submit a written safety case for the MODU that addresses the requirements of Schedule 5 of the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016, (the regulations). The MODU can only operate with an accepted and approved safety case. Worksafe advised us that the COSL Prospector already has an approved safety case. We note that any other MODU used in the Māui EAD Programme would also be subject to these regulations and require an approved safety case before it can operate within New Zealand waters.

403. Worksafe also identified that there are specific requirements with the regulations require OTL to notify WorkSafe prior to undertaking the specific drilling activities including the commencement and completion of drilling, any suspension of drilling and the abandonment of a well. Further, WorkSafe NZ requires the recognised national and international standards to be applied for the evaluation of cement integrity.

404. We note that Section 2.4 of the IA states that MNZ and the EPA have approved an ESRP in accordance with Regulation 24 of the D&D Regulations on 24 October 2019 and the well-specific WCCP for Māui-8 forms part of this ESRP. MNZ confirmed in its s56 response:\(^{59}\) that OTL has already provided an OIOSCP for the COSL Prospector that includes a WCCP and Well Control Emergency Plan both granted in October 2019 and which is valid for 3 years. MNZ further advised that any additional vessels involved in the Māui EAD Programme will be subject to the MNZ’s MMRs for domestic and international vessels.

405. For all other unplanned events, OTL assessed the environmental risk as being ‘negligible’ or ‘low’, with the predicted magnitude of environmental impact being ‘negligible’ or ‘less than minor’.

8.6.3 Findings on Unplanned Events

406. An oil spill from loss of well control has the greatest potential to cause adverse effects on the environment and existing interests.

\(^{59}\) Maritime New Zealand - Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) 2012 Act regarding the OMV Taranaki Limited Application EEZ200011, 21 February 2020 – Question 2a response.
407. We accept that the likelihood of an oil spill is rare or remote, given the proposed mitigation measures, the operational standards and procedures that will be in place, and the track record provided to us by OTL.

408. Regarding other MMRs requirements for oil spills, MNZ confirm that the appropriate controls are in place for the COSL Prospector. We accept that while approval of the OIOSCP by MNZ is part of a different regulatory framework, confirmation of acceptance should be provided to the EPA. We note that this has been formalised by OTL as proffered Condition 10 of the marine consent conditions.

409. We are also satisfied that other requirements that OTL must comply with under other MMRs will minimise the risks of (and enable response to) an oil spill occurring due to loss of well control to ALARP.

410. The information provided in the application, OTL’s further responses to additional questions, and the proposed mitigation measures gives us confidence that the proposed activities can and will be undertaken in accordance with industry best practice and Good Oilfield Practice, including compliance with industry standards.

411. Further, we are satisfied that MNZ and other agencies have the necessary plans, structures, processes, access to equipment, and financial resources to respond to an oil spill event should one occur.

412. Regarding biosecurity matters, as outlined in the Fisheries New Zealand s56 response\(^\text{60}\), the requirement for OTL to adhere to either the Craft Risk Management Standard or the Craft Risk Management Plan provide an effective mitigation measure against potential biosecurity incursion risks to the ecological environment and existing interests.

413. We understand that the COSL Prospector has already applied for its approval of the Craft Risk Management Plan ahead of its arrival in Taranaki. MPI is satisfied that all the above and below water biosecurity risks are managed by this plan.

414. We are satisfied that any international vessels or alternative MODUs used in the Māui EAD Programme will need to comply with the Craft Risk Management Standard or an MPI approved Craft Risk Management Plan, as well as the international requirements on ballast water management before it can operate in New Zealand waters therefore, any potential biosecurity risk will be reduced to ALARP level.

415. Overall, we find that for the effects of unplanned events, OTL have appropriate mitigation measures in place to ensure that the risk of and any potential impacts are ALARP.

Overall Assessment

9. Section 59 Summary and Analysis

9.1 Introduction

416. We must take into account the decision-making criteria and information principles set out in the EEZ Act. Specifically, this requires us to apply section 59 – which sets out the factors of consideration – against the criteria in section 10(1); section 60 – which lists matters to be considered in determining the extent of effects on existing interests; and section 61 – which establish certain information principles. These matters are set out in Section 4.3 of this decision.

417. We are required to assess the factors of section 59 to determine whether granting the marine consent achieves the objective in section 10(1)(a), and to separately assess whether granting the marine discharge consent achieves the objectives in section 10(1)(a) and 10(1)(b). Because the nature of the activity requires both the marine consent and marine discharge consent to be authorised, assessing the parts of the activity that require marine consent separately from the parts of the activity that require the marine discharge consent would not give an accurate assessment of the factors of section 59. Therefore, we assess the effects of the activity in its entirety against the factors of section 59, and then address separately how the marine consent and the marine discharge consent achieve section 10(1)(a), and how the marine discharge consent achieves section 10(1)(b).

418. We record here that, pursuant to section 59(5) of the EEZ Act, we have not had regard to:

(a) Trade competition or the effects of trade competition;

(b) The effects on climate change of discharging greenhouse gases into the air; and

(c) Any effects on a person’s existing interest if the person has given written approval for the proposed activity.

9.2 Section 59(2)(a) – Effects

419. Section 59(2)(a) of the EEZ Act requires us to take into account the adverse effects of allowing the activity on the environment and/or existing interests. This includes cumulative effects and any effects that may extend beyond the boundaries of the EEZ.

420. In considering “effects” we have applied the definition in section 6 of the EEZ Act and considered potential effects of low probability but high potential impact – these include the effects of unplanned events for which consent is neither required nor sought.

421. Section 8 of this decision sets out our understanding of the key potential effects of allowing the activity on the environment and existing interests. Our principal findings on these matters are set out in that Section.

9.3 Section 59(2)(a)(i) – Cumulative Effects

422. Cumulative effects may arise as a result of the effects of past, current, or future intended activities undertaken in an area. Where the effects of past activities are on-going, these will be relevant to our
assessment of cumulative effects. As such, if past activities in the application area (undertaken by OTL or by others) have given rise to on-going effects that contribute to cumulative effects, then we must take these into account. Where past effects are no longer experienced, they are not relevant to the assessment.

423. We provided our findings on cumulative effects as they relate to the biological environment, existing interests, and human health in other sections of this decision. We do not repeat those findings here.

9.4 Section 59(2)(b) – Other Activities

424. Section 59(2)(b) of the EEZ Act requires us to take into account the effects on the environment or existing interests of other activities undertaken in the area covered by the application or in its vicinity.

425. The other activities that occur in and around the AOI include the support activities undertaken by OTL associated with the Māui EAD programme, commercial shipping, and commercial and customary fishing.

426. We have considered the effects of these activities and provide our findings in other sections of this decision. We do not repeat those findings here.

9.5 Section 59(2)(c) – Human Health

427. Under section 59(2)(c) we must take into account the effects on human health that may arise from effects on the environment.

428. We have considered the effects of these activities on human health and provide our findings in other sections of this decision. We do not repeat those findings here.

9.6 Section 59(2)(d) – Biodiversity

429. Section 59(2)(d) of the EEZ Act requires us to take into account the need to protect biological diversity and integrity. We have considered the potential for effects on the biological environment and we cover those matters in Section 8.2 of this decision.

430. The evidence in front of us has not identified any effect of activities that are likely to compromise the biological diversity and integrity of marine species, ecosystems and processes.

9.7 Section 59(2)(e) – Effects on Rare and Vulnerable Species

431. Section 59(2)(e) builds on the matters under 59(2)(d) by requiring us to specifically consider rare and vulnerable species, and the habitats of threatened species. These two sections are therefore relevant to our consideration of potential effects on those marine mammals and seabirds that have a threatened classification (that is, they may be rare or vulnerable species) and may be present in the AOI.

432. While some rare or vulnerable species may be present within the AOI, provided there is compliance with the marine consent and marine discharge consent conditions, we find that the actual and/or potential adverse effects of proposed activities will be appropriately avoided.
9.8 Section 59(2)(f) – Economic Benefit

433. Economic benefit to New Zealand is the focus of section 59(2)(f) of the EEZ Act.

434. Section 6 of the IA presented an assessment of the economic benefits associated with the Māui EAD programme. We adopt that assessment for the purposes of our decision.

435. For the Māui EAD programme, OTL estimates that the total economic benefits to the Taranaki region from drilling all ten exploration and appraisal wells could equate to an increased GDP of $189 million, employment for 1,560 FTE-years\(^61\), and household incomes of more than $96 million.

436. We did not consider it necessary to subject that assessment to specific expert review. We accept the general conclusion that there will be an economic benefit from the activity – the quantum of that benefit only becomes an issue relative to any disbenefit that might arise from the activity. In this instance we have found that the “disbenefit” to the existing environment and existing interests is relatively minor and does not amount to material harm to the environment. The conditions we have imposed further mitigates those adverse effects from the authorised activities.

437. In addition to the economic benefits of the Māui EAD programme, we note there may be potential future economic benefits should the Māui EAD Programme be successful and develop over time into production activities.

9.9 Section 59(2)(g) – Natural Resources

438. Section 59(2)(g) of the EEZ Act requires us to take into account the efficient use and development of natural resources. Natural resources include the resource itself, as well as commercial and customary fisheries resources.

439. Undertaking the Māui EAD programme would ensure that OTL’s commitments to the New Zealand Government under its PML are met, which OTL stated is key to the continued efficient use and development of natural resources within these permit areas. We accept OTL’s statements on these matters.

440. We have considered the effects of the proposed activities on commercial, recreational and customary fishing resources. We find that the effects on the efficient use and development of these natural resources by the proposed activities for which consent is sought is negligible.

9.10 Section 59(2)(h) – Marine Management Regimes

441. Section 59(2)(h) of the EEZ Act requires us to take into account the nature and effect of other MMRs. The MMRs of most relevance to our assessment are set out in Table 8.

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\(^{61}\) An FTE-year is the number of people employed full-time multiplied by the duration of that employment. For example, 10 FTE-years could mean two people employed full-time for five years, or 20 people employed full-time for half a year.
<table>
<thead>
<tr>
<th>Agency</th>
<th>Legislation</th>
<th>Agency Responsibilities</th>
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| DoC    | Conservation Act 1987  
Wildlife Act  
Marine Mammals Protection Act 1978  
Marine Reserves Act 1977 | Responsible for protected species and marine mammals.  
Responsibility for non-mammal species, including seabirds. |
| MNZ    | HSW Act  
Maritime Transport Act 1994  
International Regulations for Preventing Collisions at Sea 1972  
Submarine Cables and Pipeline Protection Act 1996 | Holds a designation under the Health and Safety at Work Act 2015 for regulating health and safety on New Zealand flagged ships or any ships used as workplaces. This would apply to the MODU while it is not anchored or attached to the seabed and also to support vessels.  
Responsible for ensuring operators have approved plans in place to manage wastes from their activities, as well as Emergency Response Plans if that work causes a leak or spill into the sea.  
Assists the Minister of Transport in setting marine protection rules for managing discharges and oil spills and maritime rules preventing the collision of vessels at sea.  
Requires operators to have an international oil pollution prevention certificate and a shipboard oil pollution emergency plan, as well as holding certificates of insurance. Also requires offshore installations to have an OIOSCP and WCCP.  
The Maritime Transport Act gives effect to New Zealand’s international obligations, including MARPOL<sup>62</sup> and OPRC<sup>63</sup>.  
The Director has responsibilities and powers under the Submarine Cables and Pipeline Protection Act 1996 through delegation from Maritime Transport Act relating to the management of protected areas where these are established in the EEZ. |
| MPI    | Biosecurity Act 1993  
Fisheries Act 1996  
Māori Fisheries Act 2004 | Responsible, through Fisheries New Zealand, for managing New Zealand’s fisheries within the EEZ and its territorial waters, which includes commercial, recreational and Māori customary fisheries.  
Responsible for biosecurity at New Zealand’s boundaries and within the EEZ. It administers biofouling and ballast water guidelines for vessels entering New Zealand waters. |

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<sup>62</sup> International Convention for the Prevention of Pollution from Ships 1973/78.  
<sup>63</sup> International Convention on Oil Pollution Preparedness, Response and Cooperation 1990.
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<tr>
<th>Agency</th>
<th>Legislation</th>
<th>Agency Responsibilities</th>
</tr>
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</table>
| Ministry of Justice  
(Office of Treaty Settlements) | MACA Act | Responsible for guaranteeing public access over the marine area to the outer limits of the territorial sea and providing for the recognition of customary rights of whānau, hapū, and iwi. |
| WorkSafe New Zealand | HSW Act | Responsible for performing functions relating to health and safety in the workplace. This function applies to offshore installations which would include the MODU while it is fixed to the seabed either via anchors and / or the drill string. |
Continental Shelf Act 1964 | Responsible for issuing of minerals programmes for the allocation of rights to prospect, explore or mine Crown-owned mineral resources.  
Makes provision as to the exploration and exploitation of the continental shelf of New Zealand and for matters connected with that purpose. Permits are granted under the CMA:1991 |
| MfE, Regional Councils, DoC | RMA | The Ministry for the Environment: overview of documents prepared under the Act, including most National Policy Statements.  
The Minister of Conservation: responsible for developing the New Zealand Coastal Policy Statement.  
Regional Councils: develop Regional policy Statements, and Regional Coastal plans for managing activities out to the 12 nm boundary in coastal waters. |
| EPA | Hazardous Substances and New Organisms Act 1996  
The Health and Safety at Work (Hazardous Substances) Regulations 2017 | The HSNO Act controls the use of chemicals and flammable materials. This excludes those used in the motive power of a ship, which are subject to regulation by MNZ.  
Controls on the use and storage of chemicals in workplaces. |

442. We have taken the MMRs listed in Table 8 into account when considering the activities subject to this application. Based on the information we received, we are satisfied that we are aware of the relevant issues.

443. We record here that, as advised by MNZ in their s56 response\(^\text{64}\), the Submarine Cables and Pipeline Protection Order 2009 establishes two protected areas associated with the Māui Gas Field and that the AOI includes part of the protected area with the position of one of the proposed wells to be drilled in this area and another being close to the boundary. OTL will have to provide further information to MNZ about these activities and the Director of MNZ will determine of the activities fall

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\(^{64}\) Maritime New Zealand - Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) 2012 Act regarding the OMV Taranaki Limited Application EEZ200011, 21 February 2020 – Question 3 response.
within the protection order exemptions. We note that this is outside the scope of the matter which we are required to consider.

444. As explained in Section 10 of this decision, we have imposed conditions only where necessary, and therefore are satisfied there will be no conflict or unnecessary duplication of requirements with any measure required by these other MMRs.

445. We also gave consideration to how MMRs regulate existing interests (such as fisheries) and whether that is relevant to the management of effects and the imposition of consent conditions.

9.11 Section 59(2)(i) – Best Practice

446. Section 59(2)(i) of the EEZ Act requires us to take into account industry or activity best practice. We have had regard to industry best practice.

447. We have considered best practice and provide our findings in other sections of this decision. We do not repeat those findings here.

9.12 Section 59(2)(j) – Conditions

448. We have considered carefully the question as to whether conditions can avoid, remedy, or mitigate the adverse effects of the proposed activities and we believe that the conditions imposed will meet this requirement to achieve the EEZ Act’s purpose.

449. We discuss the conditions in greater detail in Section 10 of this decision.

9.13 Section 59(2)(k) – Regulations

450. Section 59(2)(k) of the EEZ Act requires us to take into account relevant regulations. Regulations are defined in section 4 of the EEZ Act to mean regulations made under the EEZ Act (not any other Act).

451. We have taken into account the Permitted Activity Regulations. These regulations state which activities are permitted activities for the purpose of the EEZ Act and the conditions for undertaking those activities without a marine consent.

452. As discussed in Section 2.3 of this decision, we have taken into account the Exclusive Economic Zone and Continental Shelf (Environmental Effects—Non-notified Activities) Regulations 2014 which confirm that the activities which are the subject of this application are classified as non-notified and are not to be publicly notified.

9.14 Section 59(2)(l) – Other Law

453. Section 59(2)(l) of the EEZ Act requires us to take account of any other applicable law. We have considered other MMRs as required by section 59(2)(h) and discussed these earlier in this decision.

454. We have considered the need to avoid duplicating regulations and conditions that will be imposed by regulators under other MMRs.

455. The Court of Appeal stated in [178] of the TTR decision that tikanga Māori is a relevant law under section 59(2)(l) of the EEZ Act. We must identify the nature and extent of any inconsistency the
activity may have with tikanga as identified by the relevant iwi and hapū, and have regard to it. Aspects of tikanga are considered in the context of the assessment of the impact on existing interests we addressed in section 8.4.2.2. We consider that imposing the conditions requiring participation of affected iwi aligns with the findings of NKTT. NKTT did not raise any inconsistencies that the activity may have with Tikanga.

456. We also referred to the MACA Act in previous sections of this decision. There are several applications (claims) for recognition of customary rights and Crown engagement in the Taranaki region and we note that those claims have not yet been resolved.

457. Acknowledging the above, we recognise that unresolved MACA Act claims exist and have taken the effects of the activity on those customary rights into account in our decision.

9.15 Section 59(2)(m) – Any Other Matters

458. Section 59(2)(m) of the EEZ Act is commonly referred to as the ‘catch-all’ provision. It provides the potential for us to consider anything that we consider relevant and reasonably necessary and which is not otherwise covered by the other matters referenced in section 59 of the EEZ Act.

459. Section 59(2)(m) of the EEZ Act does not provide us with unlimited scope. We cannot expand on (or take a different approach) to a specific requirement that Parliament has chosen to confine or regulate in a particular way. We have therefore considered section 59(2)(m) of the EEZ Act in the context of the specific matters required to be taken into account by section 59(2) of the EEZ Act, and related matters which have a bearing on our decision. Importantly, we have been careful to consider whether a matter has been expressly addressed by another section of the EEZ Act – before it could be capable of consideration under section 59(2)(m) of the EEZ Act.

460. There are no other matters that we consider relevant and reasonably necessary in determining this application. For completeness we record we have considered Māori perspectives on the impacts of the consented activities under our assessment of section 59(2)(a) of the EEZ Act.

9.16 Section 59(3) – Submissions and Evidence

461. Section 59(3) of the EEZ Act requires us to have regard to any submissions made, evidence, advice, reports and information sought and received by us.

462. In this case there were no submissions as this is a non-notified application. However, in meeting this requirement, we have had regard to the reports, and information sought by us during the consideration process; advice sought from counsel assisting the DMC; and from experts by way of section 56 of the EEZ Act, as well further information obtained from OTL under section 54 of the EEZ Act.

463. All the matters put before us, and requested by us, have been considered.
Conditions and Duration

10. Conditions

10.1 Introduction

464. Section 62(3) of the EEZ Act (refer to Appendix 3 to this decision) states that a marine consent may be issued subject to conditions. The ability to impose conditions on a marine consent is governed primarily by sections 63 to 67 of the EEZ Act.

465. While the wording of section 63(1) appears to provide the DMC with a very wide scope in terms of conditions it may impose on marine consents, two restrictions are specified in sections 63(3) and 63(4) and which prohibit:

(a) The imposition of conditions which are inconsistent with the EEZ Act or any regulations (section 63(3)); and

(b) The imposition of a condition to deal with an effect if the condition would conflict with a measure required in relation to the activity by another MMR, or the HSW Act (section 63(4)).

466. Section 63(4) does not prevent us imposing conditions which duplicate requirements in relation to the activity by another MMR where such a condition relates to a matter (including environmental effects or effects on existing interests) that we must take into account under section 59 of the EEZ Act. However, the imposition of conditions which duplicate another MMR’s requirements should generally be avoided, provided we have satisfied ourselves that the processes and approvals under that MMR are robust and adequately deal with the relevant environmental effects or effects on existing interests. In such situations, requiring the EPA to provide an additional approval/certification is in our view unnecessary. We have followed that general principle.

467. Sections 63(2)(a)(i) and (ii) allows us to impose a condition which requires the consent holder to provide a bond for the performance of any one or more conditions of the consent and to obtain and maintain public liability insurance of a specified value, respectively. Section 65 provides additional guidance on bond conditions. In this case we do not consider it necessary to impose a bond for performance of any condition, or for OTL to obtain public liability insurance.

468. Section 63(2)(a)(iii) and (v) allows us to impose conditions that require a consent holder to undertake monitoring, and to provide records to the EPA for audit, respectively. Section 66 provides additional guidance on monitoring conditions. We consider it appropriate to include conditions that require monitoring and note that these are included in OTL’s proffered conditions.

469. Section 63(2)(a)(iv) allows us to impose conditions that require a consent holder to appoint an observer to monitor the activity and the effects on the environment. Section 67 provides additional guidance on observer conditions and requires that any such condition must specify in detail the observer’s duties in relation to the activity. Any observer must be ‘approved’ by the EPA for that purpose. Section 67 outlines the circumstances under which such approval must be given by the EPA. In this case we do not consider it necessary to impose such a condition – although we agree that a condition requiring OTL to observe and report sightings of marine mammals (for example) is appropriate.
10.2 OTL Proffered Conditions and EPA Conditions Report

470. OTL provided a set of proffered conditions in its IA (Appendix I) which set out the procedures and operational and mitigation measures proposed to manage the effects of the activities associated with the Māui EAD Programme.

471. We sought advice from the EPA on those conditions, which was provided. The EPA Conditions Report considered the appropriateness of the proffered conditions against the information in the IA, technical reviews undertaken on behalf of the EPA and DMC - including the information provided by parties under section 56 of the EEZ Act but note that DoC’s s56 response was received following the receipt of the EPA Conditions Report.

472. The EPA Conditions Report provides a detailed assessment of OTL’s proffered conditions and following consideration of the further information received and the technical input / reviews provided, the report also provides an updated set of marine consent and marine discharge consent conditions.

473. Draft conditions were circulated to OTL and their feedback was incorporated into the final version of the EPA Conditions Report and OTL provided further comments following the release of the final version of the EPA Conditions Report. We have considered those comments in setting the final conditions of consent.

474. The amended conditions in the final EPA Conditions Report included changes to OTL’s proffered conditions in terms of:

(a) Standardisation of conditions in terms of the consents the EPA has issued and the conditions imposed on those consents;

(b) Amendments to OTL’s proffered conditions to improve enforceability and interpretation of intent of the condition(s); and

(c) New conditions in respect of the requirement to provide an EMP and an MIRP to the EPA certification.

10.3 Commentary and Findings on Conditions

10.3.1 Introduction

475. We considered the effects outlined in the IA, the responses of commissioned experts and their reports, and the conditions proffered by OTL to address those effects contained in Appendix I of the IA. In some instances, we have determined that conditions should be amended or strengthened, and we have added conditions where we consider them appropriate to address specific effects, to achieve desired outcomes and/or avoid, remedy or mitigate any actual or potential ‘harmful’ effects.

476. We used the conditions provided in the EPA Conditions Report as our starting point in terms of the final conditions that we have imposed. The following sections provide commentary on the more substantive changes that we made.

477. Where we refer to ‘our set of conditions’ it means the conditions of consent outlined in Schedule 2 of EEZ200011-1 and EEZ200011-2 of this decision. It should be noted that our numbering of conditions differs to the EPA Conditions Report set because we have deleted some conditions and added new conditions. We refer to both OTL proffered conditions numbering, the EPA Conditions
Report numbering and our final numbering, in the following sections where we consider this necessary.

478. We note that the EPA Conditions Report states\(^{65}\) that OTL generally accepted the proposed conditions without further changes except for the following conditions:

(a) Proposed conditions 1, 14, 14A, 15, 22, 27 and 28 of the marine consent; and

(b) Proposed condition 13 of the marine discharge consent.

### 10.3.2 The Environmental Monitoring Plan

479. OTL had included an EMP in its application and assumed that would effectively be approved as part of the application. The EPA disagreed with that assumption. In short, the EPA’s preference is for the EMP to be finalised and approved subsequent to any grant of consent so that it can take account of any changes to conditions imposed.

480. Condition 7A – E of the EPA Conditions Report has been provided to guide the requirements for the EMP. We note that these conditions have not been discussed with OTL because they were suggested in response to feedback from the EPA’s Compliance Team that certification of documentation should be at the EMP stage, as this is an overarching document for the environmental management.

481. These proposed conditions are similar to those used in previous Marine Consents (EEZ200009 and EEZ200010) but have been modified to take into account that an EMP has previously been submitted for this application and to provide for any amendments to the EMP.

482. We find that conditions of this nature are appropriate and consistent with standard EPA practice.

483. We note that in addition to the EMP conditions, there is also the specific requirement for provision of a WSMP (Proffered Condition 22 of the Marine Consent).

484. Conditions 8 - 10 in the Schedule 2 to EEZ200011-1 reflects the above.

### 10.3.3 MODU Installation and Removal Plan

485. To address the uncertainty with the MODUs to be used, the EPA Conditions Report recommended\(^{66}\) that a MIRP be provided. The purpose of which is to provide information on works associated with the installation and removal of any MODU and any environmental effects or risks associated with these activities.

486. The EPA Conditions Report stated\(^{67}\) that OTL did not oppose the inclusion of such a condition but requested that the DMC reconsider this condition and at least removes any surveying and

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\(^{66}\) Ibid – paragraph 67.

\(^{67}\) OTL Limited, Marine Consent And Marine Discharge Consent Application EEZ200011 - Conditions Report, Prepared for the Decision-Making Committee, February 2020 – Table 1, Condition 14a commentary, page 27.
assessment requirements, which OTL considers to be unnecessary and covered by Proffered Conditions 22, 23, 26 and 27.

487. We find that:

(a) A condition requiring a MIRP is appropriate in order to address the uncertainty in absence of any proffered condition on the installation and / or removal of the different types of MODUs that could be used;

(b) We have considered the comments of OTL in respect to Conditions 22, 23, 26 and 27 and find that they do not conflict or duplicate the requirements of Condition 14A and vice versa. For example, Condition 14A a) iii) simply requires the findings of the pre-drill surveys to be presented, it does not require additional surveys.

(c) The wording of Condition 14A in the EPA Conditions Report is accepted with the exception of:

i. ii) a description of any anchoring, or support structures.... To be placed on the seabed and the methodology for the placement of these structures – as written this condition (and Condition 14A as a whole) is silent on the extent of seabed disturbance that will occur. We note that the IA identifies a worst-case scenario disturbance of 16,236 m² against which the assessment of risk and effects has been undertaken. Therefore, we have amended the wording to ensure than the risk / effect is no greater than that established in the IA.

ii. iv) an assessment of the environmental risks of the operational aspects of the MODU against those identified in the IA to indicate whether it presents a greater or lesser risk and any associated mitigation measures – as written this wording provides OTL with a wider scope for effects than is presented, and assessed, in the IA. Therefore, we have amended the wording to ensure than the risk / effect is no greater than that established in the IA.

488. Condition 18 in Schedule 2 to EEZ200011-1 reflects the above.

10.3.4 Well-Specific Monitoring Programme

489. Proffered condition 22 - 23 requires OTL to prepare a WSMP for each proposed well except the Māui-8 well site68 with each WSMP to be submitted to the EPA for certification that it is consistent with the EMP in terms of the proposed monitoring approach that will be undertaken prior to and after drilling. Proffered Condition 24 sets out the proposed certification process for the WSMP.

490. The EPA Conditions Report adopted to the requirement for the provision of a WSMP of each well site but deleted the requirement for the EPA certification process (Proffered Condition 24) as the author stated that the EPA’s position is that certification is required at the EMP level and the requirement that all other documents need to be consistent with the certified EMP and therefore, do not require the same level of approval. We accept that certification is not required and have removed this requirement from the condition.

68 NOTE: The pre-drill monitoring activities for Māui-8 will be authorised under the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013.
491. We have made other amendments to the WSMP condition as provided in the EPA Conditions Report, which in our opinion, make the condition more logical and improve the condition’s enforceability. These amendments include:

(a) Add a reference to the exemption of provision of an WSMP for Māui-8 in the condition itself;

(b) Providing a timeframe for submission of any WSMP to the EPA of ‘no later than 20 working days prior …’; and

(c) Changing the structure of the condition to clearly outline the different requirements of the condition.

492. Consequential changes as a result of our amendments to the WSMP condition are that Proffered Condition 23 is no longer required as the WSMP shall be submitted no later than 20 working days prior to the commencement of drill of a well so a condition stating that drilling cannot commence until the WSMP is submitted is duplication. Additionally, Proffered Condition 24 is not required as the requirement for certification of the WSMP by the EPA has been removed.

493. Conditions 29 and 30 in Schedule 2 to EEZ200011-1 reflects the above.

10.3.5 Harmful Substances and Discharges

494. The approach proposed by OTL in its proffered conditions to control discharges from activities associated with the Māui EAD programme included providing a list of harmful substances, their purpose and use, and the HSNO toxicity classification which could be discharged as part of the project (Proffered Condition 9 of the Marine Discharge Consent).

495. The proffered conditions (condition 10 of the marine discharge consent) also proposed a process through which OTL could use alternative substances provided the substitute substance was used for the intended purpose of the original substance, the substance had the same or lower ecotoxic classification as that being replaced; if oil that is not ecotoxic was being replaced; and the replacement product should also be non-ecotoxic. The conditions also required the alternative substances to be approved.

496. The ERA Discharges Report clearly identified that the level of risk associated with the discharge activities was directly linked to the volume and concentrations of the harmful substances to discharged as part of the Māui EAD programme. Those volumes and concentrations were specifically identified in the ERA Discharges Report (which were taken from the IA) and the report recommended that these be adopted as limits within the marine discharge consent.

497. The EPA Conditions Report includes a condition requiring the discharge activities shall not exceed the maximum volume, or maximum mass (as applicable) per drill site, specified for each harmful substance as listed in Schedule 1 of the marine discharge consent.

498. While we acknowledge OTL’s concern over what it has referred to as the “change of conditions” approach being disproportionate to the activity and its effects, we find that as the analysis of discharge effects depends upon the substances discharged it is appropriate that a formal process for changing those substances is followed. As this would be a non-notified, technical application process we see no impediment standing in the way of adopting the approach preferred in the EPA Conditions Report.
499. The EPA Conditions Report did not recommend or provide a process for the substitution of alternative substance therefore, proffered conditions 10 and 11 (which outlined OTL’s alternative substance process) are to be deleted.

500. Condition 9 in Schedule 2 to EEZ200011-2 reflects the above.

11. Duration

501. As stated in Section 8.1 of the IA, this date aligns with the expiry date for Marine Consent EEZ000010, Marine Consent EEZ100014-1, and Marine Discharge Consent EEZ100014-2, all three of which relate to the Māui Field.

502. OTL stated that while PML 381012 currently expires in July 2036, the duration of the PML may be extended for such a period as the Minister considers reasonable to enable OTL to economically deplete the petroleum resource. It is for this reason that OTL is seeking an expiry date of 5 June 2050 consistent with existing consents.

503. In considering the duration of consent we have considered the requirements under section 73 of the EEZ Act.

504. The DMC is aware that there are timeframes included within OTL’s PML which may ultimately dictate when exploration activities can occur; however, we consider that the requested expiry date of 5 June 2050 is appropriate for the marine consent and marine discharge consent as it provides a common expiry date for the other marine consents recently issued to OTL within the Māui Field.

12. Overall Determination and Reasons for Decision

505. Pursuant to section 10(3) of the EEZ Act, we have taken into account decision-making criteria in section 59, 60, and 61 of the EEZ Act and have turned our minds to whether granting or refusing consent best achieves the purpose of the EEZ Act, as set out earlier in this decision.

12.1 Assessment to achieve Purpose of the Act

506. We have considered the objectives set out in section 10(1) of the EEZ Act and whether granting the marine consent and/or marine discharge consent achieves the objectives set out in that purpose statement, namely:

(a) to promote the sustainable management of the natural resources of the EEZ and the continental shelf; and

(b) in relation to the EEZ, the continental shelf, and the waters above the continental shelf beyond the outer limits of the EEZ, to protect the environment from pollution by regulating or prohibiting the discharge of harmful substances and the dumping or incineration of waste or other matter.
12.1.1 Section 10(1)(a)

507. Sustainable management is defined in section 10(2) of the EEZ Act as:

*managing the use, development, and protection of natural resources in a way, or at a rate, that enables people to provide for their economic well-being while—*

(a) *sustaining the potential of natural resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*

(b) *safeguarding the life-supporting capacity of the environment; and*

(c) *avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

**Marine consent**

508. Granting of the marine consent does not use or develop the natural resources in an unsustainable manner. The consent achieves protection of the natural resources by avoiding, remediing and mitigating any adverse effects of the activity through conditions we have imposed. This means that any effect on the environment and existing interests from the activity will be, at worst, *minor* and for many of the elements of adverse effects on the environment the rating is *negligible*. Consequently, we find that granting the marine consent will have no adverse effect on the ability of people to provide for their economic well-being while sustaining the potential of natural resources and safeguarding the life-supporting capacity of the environment.

**Marine discharge consent**

509. Granting of the marine discharge consent does not use or develop the natural resources in an unsustainable manner. The marine discharge consent achieves protection of the natural resources by avoiding, remediing and mitigating any adverse effects of the activity through conditions we have imposed. This means that any effect on the environment and existing interests from the activity will be *less than minor* and will have no long lasting effects on the environment. Consequently, we find that granting the marine discharge consent will have no adverse effect on the ability of people to provide for their economic well-being while sustaining the potential of natural resources and safeguarding the life-supporting capacity of the environment.

12.1.2 Section 10(1)(b)

**Marine discharge consent**

510. The starting point for determining whether granting the marine discharge consent achieves section 10(1)(b) is whether the environment is protected from pollution caused by the discharge.

511. The discharges applied for include a range of harmful substances which have the potential to create adverse effects. However, the discharges we have authorised have only *negligible or less than minor* effects on the environment, and we do not consider that this amounts to material harm to the environment. We have imposed conditions which avoid any potential harm to the environment from the discharge by regulating which harmful substances, and the amount of those harmful substances, that are authorised to be discharged.
12.1.3 Overall Findings

512. Overall, we find that the assessment of the activity against sections 10 and 59 matters was adequately set out in OTL’s IA. In summary, we find:

(a) The proposed discharges will have only negligible or less than minor effects on the environment, and we do not consider these will result in material harm to the environment. We have imposed conditions to avoid, remedy or mitigate any actual and/or potential adverse effects on the environment from the activities by regulating the type and quantities of harmful substances that can be discharged.

(b) The actual and/or potential adverse effects on the biological environment, including cumulative effects, of the activities associated with the Māui EAD programme will either be avoided, remedied or mitigated through compliance with consent conditions and the requirements of other MMRs.

(c) The proposed operational procedures, mitigation measures and imposed conditions will ensure that the biological diversity of marine species, ecosystems and processes in the AOI, and wider Taranaki Bight, is protected.

(d) The actual and/or potential adverse effects on existing interests, including commercial and customary fishing activities, will be negligible, and the conditions will adequately address any adverse effects including any adverse effects on existing interests held by Māori.

(e) There will be economic benefits to New Zealand from allowing the activity. While the quantum of those benefits necessarily remain conjectural, there will clearly be benefits.

513. While this application is for the activities associated with OTL’s Māui EAD Programme that require consent under the EEZ Act, OTL is also required to comply with a number of other legislative regimes that relate to health and safety and environmental protection.

514. Not all of those other legislative requirements are relevant to this application. However, we do note that those additional measures and approval requirements provide further protection from adverse effects on the existing environment and existing interests and will minimise the potential for adverse unplanned events to occur.

515. OTL has stated that that it will follow industry best practice and comply with ‘Good Oilfield Practice’ in relation to undertaking the Māui EAD programme. The conditions of consent imposed will assist in that regard.

516. After considering all the information in front of us and taking into account the matters listed in sections 59, 60, and 61 of the EEZ Act, we find that, subject to the conditions of consent we have imposed, granting the marine consent and marine discharge consent sought by OTL for its Māui EAD Programme meets the purpose of the EEZ Act.

69 Refer to Appendix J – Good Oilfield Practices, of the Impact Assessment.
### Appendix 1 - Abbreviations, acronyms, and terms used in this decision

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALARP</td>
<td>As Low As Reasonably Practicable</td>
</tr>
<tr>
<td>AOI</td>
<td>Area of Interest</td>
</tr>
<tr>
<td>bbl</td>
<td>Barrel</td>
</tr>
<tr>
<td>BOP</td>
<td>Blow Out Preventer</td>
</tr>
<tr>
<td>CAG</td>
<td>Community Advisory Group</td>
</tr>
<tr>
<td>CMA</td>
<td>Coastal marine area</td>
</tr>
<tr>
<td>Coffey</td>
<td>Coffey Services (NZ) Ltd</td>
</tr>
<tr>
<td>CRMS</td>
<td>Craft Risk Management Standard</td>
</tr>
<tr>
<td>D&amp;D Regulations</td>
<td>Exclusive Economic Zone and Continental Shelf (Environmental Effects – Discharge and Dumping) Regulations 2015</td>
</tr>
<tr>
<td>DMC</td>
<td>Decision-Making Committee</td>
</tr>
<tr>
<td>DoC</td>
<td>Department of Conservation</td>
</tr>
<tr>
<td>DP</td>
<td>Dynamic positioning</td>
</tr>
<tr>
<td>DST</td>
<td>Drill Stem Testing</td>
</tr>
<tr>
<td>EAD</td>
<td>Exploration and Appraisal Drilling</td>
</tr>
<tr>
<td>EEZ</td>
<td>Exclusive Economic Zone</td>
</tr>
<tr>
<td>EEZ Act</td>
<td>Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012</td>
</tr>
<tr>
<td>EMP</td>
<td>Environmental Monitoring Plan</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Authority</td>
</tr>
<tr>
<td>ERA</td>
<td>Environmental risk assessment</td>
</tr>
<tr>
<td>ESRP</td>
<td>Emergency Spill Response Plan</td>
</tr>
<tr>
<td>HSW Act</td>
<td>Health and Safety at Work Act 2015</td>
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<td>IA</td>
<td>Impact Assessment</td>
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<tr>
<td>km</td>
<td>kilometre</td>
</tr>
<tr>
<td>LMRP</td>
<td>Low marine riser package</td>
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<tr>
<td>m</td>
<td>metre</td>
</tr>
<tr>
<td>m²</td>
<td>square metre</td>
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<tr>
<td>m³</td>
<td>cubic metre</td>
</tr>
<tr>
<td>mm</td>
<td>millimetre</td>
</tr>
<tr>
<td>MACA Act</td>
<td>Marine and Coastal Area (Takutai Moana) Act 2011</td>
</tr>
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<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships</td>
</tr>
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<td>MMRs</td>
<td>Marine Management Regimes</td>
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<td>MIRP</td>
<td>MODU Installation and Removal Plan</td>
</tr>
<tr>
<td>MNZ</td>
<td>Maritime New Zealand</td>
</tr>
<tr>
<td>MODU</td>
<td>Mobile Offshore Drilling Unit</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
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<tr>
<td>MOS</td>
<td>MetOcean Solutions</td>
</tr>
<tr>
<td>MPA</td>
<td>Māui Platform Alpha</td>
</tr>
<tr>
<td>MPB</td>
<td>Māui Platform Bravo</td>
</tr>
<tr>
<td>MPI</td>
<td>Ministry for Primary Industries</td>
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<td>NKTT</td>
<td>Ngā Kaihautū Tikanga Taiao</td>
</tr>
<tr>
<td>nm</td>
<td>nautical mile</td>
</tr>
<tr>
<td>OIOSCP</td>
<td>Offshore Installation Oil Spill Contingency Plan</td>
</tr>
<tr>
<td>OGS</td>
<td>Oil and Gas Solutions</td>
</tr>
<tr>
<td>OTL</td>
<td>OMV Taranaki Limited</td>
</tr>
<tr>
<td>OMV</td>
<td>OMV New Zealand</td>
</tr>
<tr>
<td>OTEMP</td>
<td>Document entitled “Recommendations for an Offshore Taranaki Environmental Monitoring Protocol: Drilling and production-related discharges”</td>
</tr>
<tr>
<td>PEP</td>
<td>Petroleum Exploration Permit</td>
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<tr>
<td>PML</td>
<td>Petroleum Mining Licence</td>
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<tr>
<td>Permitted Activity Regulations</td>
<td>Exclusive Economic Zone and Continental Shelf (Environmental Effects—Permitted Activities) Regulations 2013 Regulations</td>
</tr>
<tr>
<td>RMA</td>
<td>Resource Management Act 1991</td>
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<tr>
<td>ROV</td>
<td>Remotely Operated Vehicle</td>
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<tr>
<td>SBM</td>
<td>Synthetic-based mud</td>
</tr>
<tr>
<td>SDS</td>
<td>Safety Data Sheet</td>
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<td>Seapen</td>
<td>Seapen Marine Environmental Services</td>
</tr>
<tr>
<td>TSS</td>
<td>Total suspended sediment</td>
</tr>
<tr>
<td>TTR</td>
<td>Trans-Tasman Resources</td>
</tr>
<tr>
<td>TVD</td>
<td>True Vertical Depth</td>
</tr>
<tr>
<td>WBM</td>
<td>Water-based mud</td>
</tr>
<tr>
<td>WCCP</td>
<td>Well Control Contingency Plan</td>
</tr>
<tr>
<td>WFT</td>
<td>Wireline Formation Tester</td>
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<tr>
<td>WorkSafe</td>
<td>WorkSafe New Zealand</td>
</tr>
<tr>
<td>WSMP</td>
<td>Well-Specific Monitoring Programme</td>
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</tbody>
</table>
## Appendix 2 - Procedural History

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 March 2019</td>
<td>EPA appointed DMC including delegating decision-making powers to it.</td>
</tr>
<tr>
<td>6 November 2019</td>
<td>Application for marine consent and marine discharge consent lodged with the EPA by OMV Taranaki Limited (OTL).</td>
</tr>
<tr>
<td>4 December 2019</td>
<td>EPA determined OTL’s application documents complete under section 40 of the EEZ Act.</td>
</tr>
<tr>
<td>4 December 2019</td>
<td>DMC commissioned Oil and Gas Solutions (OGS) (DMC technical expert) to provide a technical review of the application in relation to operational activities.</td>
</tr>
<tr>
<td>4 December 2019</td>
<td>DMC commissioned Seapen Environmental Services (DMC technical expert) to provide a technical review of the application in relation to the effects of the application with a focus on the benthic environment.</td>
</tr>
<tr>
<td>4 December 2019</td>
<td>DMC commissioned Coffey Service Limited (DMC technical expert) to provide a technical review the application in relation to drill cuttings dispersion modelling and hydrocarbon dispersion modelling.</td>
</tr>
<tr>
<td>4 December 2019</td>
<td>DMC commissioned the EPA to prepare an Environmental Risk Assessment for Discharges.</td>
</tr>
<tr>
<td>9 December 2020</td>
<td>DMC requested advice from Ngā Kaihautū Tikanga Taiao</td>
</tr>
<tr>
<td>9 January 2020</td>
<td>Letter sent to OTL requesting further information (DMC request #1).</td>
</tr>
<tr>
<td>17 January 2020</td>
<td>OTL response received to further information request #1.</td>
</tr>
<tr>
<td>17 January 2020</td>
<td>DMC received technical review of the application from Oil and Gas Solutions</td>
</tr>
<tr>
<td>21 January 2020</td>
<td>DMC received Environmental Risk Assessment (ERA) for Discharges from the EPA</td>
</tr>
<tr>
<td>21 January 2020</td>
<td>DMC received technical review of the application from Coffey Services Limited in relation to drill cuttings dispersion modelling</td>
</tr>
<tr>
<td>21 January 2020</td>
<td>DMC received technical review of the application from Coffey Services Limited in relation to hydrocarbon dispersion modelling.</td>
</tr>
<tr>
<td>22 January 2020</td>
<td>DMC received technical review of the application from Seapen Marine Environmental Services.</td>
</tr>
<tr>
<td>28 January 2020</td>
<td>A Ngā Kaihautū Tikanga Taiao Report was produced for the application</td>
</tr>
<tr>
<td>4 February 2020</td>
<td>DMC requested information and advice from the Ministry of Primary Industries</td>
</tr>
<tr>
<td>4 February 2020</td>
<td>DMC requested information and advice from the Department of Conservation.</td>
</tr>
<tr>
<td>4 February 2020</td>
<td>DMC requested information and advice from WorkSafe New Zealand.</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4 February 2020</td>
<td>DMC requested information and advice from Maritime New Zealand.</td>
</tr>
<tr>
<td>28 January 2020</td>
<td>DMC commissioned the EPA to prepare a Conditions Report</td>
</tr>
<tr>
<td>4 February 2020</td>
<td>DMC requested an addendum report from Oil and Gas Solutions</td>
</tr>
<tr>
<td>10 February 2020</td>
<td>Letter sent to OTL requesting further information (DMC request #2).</td>
</tr>
<tr>
<td>10 February 2020</td>
<td>DMC Minute 1 issued proposing to extend the time limit to make a decision</td>
</tr>
<tr>
<td>12 February 2020</td>
<td>DMC received letter from OTL providing a response to DMC Minute 1.</td>
</tr>
<tr>
<td>13 February 2020</td>
<td>WorkSafe New Zealand provided information and advice to the DMC</td>
</tr>
<tr>
<td>13 February 2020</td>
<td>DMC received an addendum report from Oil and Gas Solutions</td>
</tr>
<tr>
<td>13 February 2020</td>
<td>DMC received letter from OTL providing feedback on the NKTT Report</td>
</tr>
<tr>
<td>20 February 2020</td>
<td>DMC Minute 2 issued outlining responses received in response to the extension of time to make a decision</td>
</tr>
<tr>
<td>21 February 2020</td>
<td>OTL response received to further information request #2.</td>
</tr>
<tr>
<td>21 February 2020</td>
<td>Maritime New Zealand provided information and advice to the DMC</td>
</tr>
<tr>
<td>27 February 2020</td>
<td>DMC received EPA Conditions Report</td>
</tr>
<tr>
<td>28 February 2020</td>
<td>DMC received an addendum letter from WorkSafe New Zealand</td>
</tr>
<tr>
<td>28 February 2020</td>
<td>Department of Conservation provided information and advice to the DMC</td>
</tr>
<tr>
<td>28 February 2020</td>
<td>Ministry for Primary Industries provided information and advice to the DMC</td>
</tr>
<tr>
<td>5 March 2020</td>
<td>DMC Minute 3 issued directing expert conferencing on modelling of drill cuttings deposition/dispersion and hydrocarbon dispersion</td>
</tr>
<tr>
<td>5 March 2020</td>
<td>DMC Minute 4 issued outlining the DMC’s decision not to hold a hearing and extending the time limit to make its decision on the applications.</td>
</tr>
<tr>
<td>5 March 2020</td>
<td>DMC requested an addendum report from Ngā Kaihautū Tikanga Taiao (NKTT).</td>
</tr>
<tr>
<td>10 March 2020</td>
<td>DMC Minute 5 issued making a correction to DMC Minute 4 to the number of working days (24) to make a decision on the applications.</td>
</tr>
<tr>
<td>13 March 2020</td>
<td>DMC received addendum report from NKTT</td>
</tr>
<tr>
<td>12 March 2020</td>
<td>Expert Conferencing on modelling of drill cuttings deposition/dispersion and hydrocarbon dispersion took place.</td>
</tr>
<tr>
<td>16 March 2020</td>
<td>DMC received Joint Witness Statement from expert conferencing on modelling of drill cuttings deposition/dispersion and hydrocarbon dispersion</td>
</tr>
<tr>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>18 March 2020</td>
<td>DMC received letter from OTL providing feedback on EPA Conditions Report</td>
</tr>
<tr>
<td>26 March 2020</td>
<td>DMC received letter from OTL providing feedback on the s56 response from the Department of Conservation, NKTT Report, and the outcomes of expert conferencing.</td>
</tr>
<tr>
<td>8 April 2020</td>
<td>DMC Minute 6 issued proposing to extend the time limit to make a decision to enable consideration of the Court of Appeal decision on Trans-Tasman Resources Limited application to extract and process iron sand within the South Taranaki Bight</td>
</tr>
<tr>
<td>14 April 2020</td>
<td>OMV Taranaki Limited provided a response to DMC Minute 6</td>
</tr>
<tr>
<td>16 April 2020</td>
<td>DMC requested advice from NKTT under section 56 in relation to cultural interests within the Taranaki area and specifically any applications (either in progress or decided) for recognised customary interests under the Marine and Coastal Area (Takutai Moana) Act 2011, including those in the Coastal Marine area and the Exclusive Economic Zone.</td>
</tr>
<tr>
<td>17 April 2020</td>
<td>DMC Minute 7 issued advising of the decision to extend the time limit to make a decision to consider the Court of Appeal decision on the Trans-Tasman Resources Limited (TTR) marine consent application.</td>
</tr>
<tr>
<td>24 April 2020</td>
<td>DMC received advice from the EPA on behalf of NKTT in relation to recognised customary interests under the Marine and Coastal Area (Takutai Moana) Act 2011.</td>
</tr>
<tr>
<td>8 May 2020</td>
<td>Decision made</td>
</tr>
</tbody>
</table>
Appendix 3 - EEZ Act Decision-making Framework

Section 10 of the EEZ Act – Purpose

Section 10(1) of the EEZ Act states:

“The purpose of this Act is –

(a) to promote the sustainable management of the natural resources of the exclusive economic zone and the continental shelf; and

(b) in relation to the exclusive economic zone, the continental shelf, and the waters above the continental shelf beyond the outer limits of the exclusive economic zone, to protect the environment from pollution by regulating or prohibiting the discharge of harmful substances and the dumping or incineration of waste or other matter.”

‘Sustainable management’ is defined in section 10(2) as follows:

“In this Act, sustainable management means managing the use, development, and protection of natural resources in a way, or at a rate, that enables people to provide for their economic well-being while—

(a) sustaining the potential of natural resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of the environment; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.”

The resources to be sustainably managed under the EEZ Act are the “natural resources of the exclusive economic zone and continental shelf”. Section 4(1) of the EEZ Act defines ‘natural resources’ as:

“(a) in relation to the exclusive economic zone, includes seabed, subsoil, water, air, minerals, and energy, and all forms of organisms (whether native to New Zealand or introduced); and

(b) in relation to the continental shelf, means the mineral and other non-living resources of the seabed and subsoil and sedentary species.”

Section 4(1) of the EEZ Act defines ‘environment’ as:

“the natural environment, including ecosystems and their constituent parts and all natural resources, of—

(a) New Zealand:

(b) the exclusive economic zone:
Section 10(3) of the EEZ Act states:

“In order to achieve the purpose, decision-makers must—

(a) take into account decision-making criteria specified in relation to particular decisions; and

(b) apply the information principles to the development of regulations under section 27, 29A, 29B, or 29E and the consideration of applications for marine consent.”

The decision-making criteria referred to in section 10(3)(a) of the EEZ Act are set out in sections 59 and 60 of the Act. The information principles are found in section 61.

Section 11 of the EEZ Act – International Obligations

Section 11 of the Act confirms that New Zealand’s international obligations are implicit in the EEZ Act. Section 11 of the EEZ Act states:

“This Act continues or enables the implementation of New Zealand’s obligations under various international conventions relating to the marine environment, including—


(b) the Convention on Biological Diversity 1992.

(c) the International Convention for the Prevention of Pollution from Ships 1973 (MARPOL).


(e) International Regulations for the Prevention of Collisions at Sea 1972.”

Section 12 of the EEZ Act – Treaty of Waitangi

Section 12 of the Act outlines the specific actions that the EPA (and this DMC) must undertake in order to recognise and respect the Crown’s responsibility to give effect to the principles of the Treaty of Waitangi. Section 12 of the EEZ Act states:

“In order to recognise and respect the Crown’s responsibility to give effect to the principles of the Treaty of Waitangi for the purposes of this Act,—

(a) section 18 (which relates to the function of the Māori Advisory Committee) provides for the Māori Advisory Committee to advise the [Environmental Protection Authority] so that decisions made under this Act may be informed by a Māori perspective; and
(b) section 32 requires the Minister to establish and use a process that gives iwi adequate time and opportunity to comment on the subject matter of proposed regulations; and

(c) sections 33 and 59, respectively, require the Minister and the [Environmental Protection Authority] to take into account the effects of activities on existing interests; and

(d) section 46 requires the Environmental Protection Authority to notify iwi authorities, customary marine title groups, and protected customary rights groups directly of consent applications that may affect them.”

Section 20 of the EEZ Act – Restriction on activities other than discharges and dumping

20 Restriction on activities other than discharges and dumping

1) No person may undertake an activity described in subsection (2) in the exclusive economic zone or in or on the continental shelf unless the activity is a permitted activity or authorised by a marine consent or section 21, 22, or 23.

2) The activities referred to in subsection (1) are—

   a) the construction, placement, alteration, extension, removal, or demolition of a structure on or under the seabed:

   b) the construction, placement, alteration, extension, removal, or demolition of a submarine pipeline on or under the seabed:

   ba) the abandonment of a submarine pipeline that is on or under the seabed:

   c) the placement, alteration, extension, or removal of a submarine cable on or from the seabed:

   d) the removal of non-living natural material from the seabed or subsoil:

   e) the disturbance of the seabed or subsoil in a manner that is likely to have an adverse effect on the seabed or subsoil:

   f) the deposit of any thing or organism in, on, or under the seabed:

   g) the destruction, damage, or disturbance of the seabed or subsoil in a manner that is likely to have an adverse effect on marine species or their habitat.

3) No person may undertake an activity described in subsection (4) in the sea of the exclusive economic zone unless the activity is a permitted activity or authorised by a marine consent or section 21, 22, or 23.
4) The activities referred to in subsection (3) are—

a) the construction, mooring or anchoring long-term, placement, alteration, extension, removal, or demolition of a structure, part of a structure, or a ship used in connection with a structure:

b) the causing of vibrations (other than vibrations caused by the propulsion of a ship) in a manner that is likely to have an adverse effect on marine life:

c) the causing of an explosion.

5) However, this section does not apply to—

a) the discharge of harmful substances; or

b) the dumping of waste or other matter; or

c) lawful fishing for wild fish under the Fisheries Act 1996.

Section 20B of the EEZ Act – Restriction on discharges of harmful substances from structures and submarine pipelines

20B Restriction on discharges of harmful substances from structures and submarine pipelines

(1) No person may discharge a harmful substance from a structure or from a submarine pipeline into the sea or into or onto the seabed of the exclusive economic zone.

(2) No person may discharge a harmful substance into or onto the continental shelf beyond the outer limits of the exclusive economic zone or into the sea above that part of the continental shelf from—

(a) a New Zealand structure; or

(b) a structure (other than a New Zealand structure) involved in a mining activity; or

(c) a submarine pipeline.

(3) However, a person may discharge a harmful substance if the discharge is a permitted activity or authorised by a marine consent or section 21, 22, or 23.

Section 20C of the EEZ Act - Restriction on mining discharges from ships

20C Restriction on mining discharges from ships

(1) No person may discharge a harmful substance (if the discharge is a mining discharge) from a ship—
(a) into the sea of the exclusive economic zone or above the continental shelf beyond the outer limits of the exclusive economic zone; or

(b) into or onto the continental shelf.

(2) However, a person may discharge the harmful substance in the circumstance described in subsection (1) if the discharge is a permitted activity or authorised by a marine consent or section 21, 22, or 23.

Section 59 and 60 of the EEZ Act – Matters to be Taken into Account

Sections 59 and 60 of the EEZ Act set out the matters we must consider in coming to a decision on an application for marine discharge consent.

"59 Environmental Protection Authority’s consideration of application

(1) This section and sections 60 and 61 apply when the [Environmental Protection Authority] is considering an application for a Marine Consent and submissions on the application.

(2) …[the Environmental Protection Authority] must take into account—

(a) any effects on the environment or existing interests of allowing the activity, including—

(i) cumulative effects; and

(ii) effects that may occur in New Zealand or in the waters above or beyond the continental shelf beyond the outer limits of the exclusive economic zone; and

(b) the effects on the environment or existing interests of other activities undertaken in the area covered by the application or in its vicinity, including—

(i) the effects of activities that are not regulated under this Act; and

(ii) effects that may occur in New Zealand or in the waters above or beyond the continental shelf beyond the outer limits of the exclusive economic zone; and

(c) the effects on human health that may arise from effects on the environment; and

(d) the importance of protecting the biological diversity and integrity of marine species, ecosystems, and processes; and

(e) the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species; and

(f) the economic benefit to New Zealand of allowing the application; and
(g) the efficient use and development of natural resources; and

(h) the nature and effect of other marine management regimes; and

(i) best practice in relation to an industry or activity; and

(j) the extent to which imposing conditions under section 63 might avoid, remedy, or mitigate the adverse effects of the activity; and

(k) relevant regulations (other than EEZ policy statements); and

(l) any other applicable law (other than EEZ policy statements); and

(m) any other matter the [Environmental Protection Authority] considers relevant and reasonably necessary to determine the application.

(2A) If the application is for a marine discharge consent, the EPA must take into account—

(a) the matters described in subsection (2) except paragraph (c); and

(b) the effects on human health of the discharge of harmful substances if consent is granted.

(3) The [Environmental Protection Authority] must have regard to—

(aa) EEZ policy statements; and

(a) any submissions made and evidence given in relation to the application; and

(b) any advice, reports, or information sought under this Part and received in relation to the application; and

(c) any advice received from the Māori Advisory Committee.

(5) Despite subsection (3), the [Environmental Protection Authority] must not have regard to—

(a) trade competition or the effects of trade competition; or

(b) the effects on climate change of discharging greenhouse gases into the air; or

(c) any effects on a person’s existing interest if the person has given written approval to the proposed activity.

(6) Subsection (5)(c) does not apply if the person has given written approval but the person withdraws the approval by giving written notice to the marine consent authority—

(a) before the date of the hearing, if there is one; or

(b) if there is no hearing, before the marine consent authority decides the application.
60 Matters to be considered in deciding extent of adverse effects on existing interests

In considering the effects of an activity on existing interests under section 59(2)(a), the [Environmental Protection Authority] must have regard to—

(a) the area that the activity would have in common with the existing interest; and

(b) the degree to which both the activity and the existing interest must be carried out to the exclusion of other activities; and

(c) whether the existing interest can be exercised only in the area to which the application relates; and

(d) any other relevant matter.”

Section 61 of the EEZ Act – Information Principles

Section 61 of the EEZ Act states:

“61 Information principles

(1) When considering an application for a Marine Consent, the [Environmental Protection Authority] must—

(a) make full use of its powers to request information from the applicant, obtain advice, and commission a review or a report; and

(b) base decisions on the best available information; and

(c) take into account any uncertainty or inadequacy in the information available.

(2) If, in relation to making a decision under this Act, the information available is uncertain or inadequate, the marine consent authority must favour caution and environmental protection.

(3) If favouring caution and environmental protection means that an activity is likely to be refused, the marine consent authority must first consider whether taking an adaptive management approach would allow the activity to be undertaken.

(4) Subsection (3) does not apply to an application for a marine discharge consent or limit section 63 or 64.

(5) In this section, best available information means the best information that, in the particular circumstances, is available without unreasonable cost, effort, or time.”
Section 63 of the EEZ Act – Conditions of marine consents

Section 63 of the EEZ Act states:

(1) A marine consent authority may grant a marine consent on any condition that it considers appropriate to deal with adverse effects of the activity authorised by the consent on the environment or existing interests.

(2) The conditions that the marine consent authority may impose include, but are not limited to, conditions—

(a) requiring the consent holder to—

(i) provide a bond for the performance of any 1 or more conditions of the consent:

(ii) obtain and maintain public liability insurance of a specified value:

(iii) monitor, and report on, the exercise of the consent and the effects of the activity it authorises:

(iv) appoint an observer to monitor the activity authorised by the consent and its effects on the environment:

(v) make records related to the activity authorised by the consent available for audit:

(b) that, if section 64 applies, together amount or contribute to an adaptive management approach.

(3) However, the marine consent authority must not impose a condition on a consent if the condition would be inconsistent with this Act or any regulations.

(4) To avoid doubt, the marine consent authority may not impose a condition to deal with an effect if the condition would conflict with a measure required in relation to the activity by another marine management regime or the Health and Safety at Work Act 2015.
Section 73 of the EEZ Act – Duration of consents

Section 73 of the EEZ Act states:

“(1A) The duration of a marine discharge consent is—

(a) the term specified in the consent, which must not be more than 35 years; or

(b) if no term is specified, 5 years after the date of the granting of the consent.

(2) When determining the duration of the consent, the [Environmental Protection Authority] must—

(a) comply with sections 59 and 61; and

(b) take into account the duration sought by the applicant; and

(c) take into account the duration of any other legislative authorisations granted or required for the activity that is the subject of the application for consent.”