

Appendix 3: Assessment of activities against decision-making matters (s 59 and s 61)

Section 59 matters (marine consent authority's consideration of application) considered	Assessment
<p>Section 59(2)(a)(i) any effects on the environment or existing interests¹ of allowing the activity, including cumulative effects</p>	<p>Part 2 of BW Offshore's Impact Assessment (IA) describes the sensitivity of various environmental and socio-economic receptors and potential impacts of the activities on those receptors. An assessment of the effects for each activity is presented below. This is followed by an assessment of the cumulative effects of the activities.</p> <p><u>Activity 1: Floating Production Storage and Offtake facility (FPSO) preparation and demobilisation preparatory works</u></p> <p>Activity 1 does not require a ruling to be undertaken as each part of this activity is either not restricted under the EEZ Act or will not have any adverse effect on the environment or existing interests.</p> <p>BWO state that some parts of Activity 1 may cause adverse effects (increased vessel traffic, and vibrations in water column from the propulsion of a ship)² although I note these parts of the activity are not restricted by the EEZ Act³. Therefore, these parts of the activity do not require a ruling in order to be undertaken. These parts of Activity 1 form part of the wider programmes and are considered by BWO in its assessment of cumulative effects⁴. While these activities do not directly involve any restricted activities under the EEZ Act, they will take place as a necessary consequence of restricted activities that are proposed to be carried out as part of the wider disconnection programme of work. I have therefore considered the effects of these wider but necessary activities to ensure that all consequential effects of the restricted activities are considered.</p> <p>BWO state that increased vessel traffic (and associated vibrations in the water column) is not expected to cause adverse effects beyond what it considers to be normal operations in the Tui Field.</p>

¹ "Existing interests" is defined in section 4 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012.

² Table 13 in Part 2 of the IA.

³ Vessel movement is not captured under the EEZ Act and s 20(4)(b) captures vibrations that have an adverse effect on marine life but specifically excludes vibrations from the propulsion of a ship.

⁴ As described on page 55 of Part 2 of the IA.

I consider the greatest risk of increased vessel traffic is to marine mammals in the area. BWO recognise that in the event a Maui Dolphin is injured or killed, there may be population effects and recovery of that population could be slow⁵.

I agree that potential effects on Maui Dolphin could be severe, not only at a population level but also at a species level. For this reason I consider the sensitivity of the species would be high to any impacts (rather than medium as identified by BWO⁶). I agree that the likelihood of impact is low given the relatively few vessels involved for a short period of time (up to 40 days), however this increased activity is taking place in a wider environment that is subject to fishing activity⁷, other oil and gas operations, general vessel traffic, and disease, all of which provides additional stress on nationally threatened species that may be in the area such as the Maui Dolphin⁸. BWO also state the risks posed by its activities will be mitigated by only operating vessels during the day⁹ and slowing vessels or changing course when marine mammals are sighted¹⁰. Based on this risk to Maui Dolphins in particular, I consider the consequence of vessel collision may have severe population level impacts but is unlikely to occur (noting it has been known to occur elsewhere). I consider this results in a moderate risk level¹¹ which is mitigated by BWO limiting vessel speed and changing course to avoid marine mammals. This is generally consistent with and comparable to the National Institute for Water and Atmospheric Research's (NIWA) assessment of risk to protected marine mammal species due to increased activity around platforms during decommissioning programmes¹². Accounting for the proposed mitigation measures, I consider the effects of this activity on Maui Dolphins are likely to be less than minor.

Activity 2: Remotely Operated Vehicle (ROV) installation (pre-start survey)

I consider Activity 2 is likely to have very limited duration and intensity of effects on the benthic environment and water column. Any adverse effects observed would be due to the mobilisation of the sediments caused by the ROV operating near the seabed when undertaking surveys of the mooring system or when connecting the Construction Support

⁵ Ibid.

⁶ Page 50 of Part 2 of the IA.

⁷ Sections 4.1.1 and 4.1.4 of Part 1 of the IA and Section 2.5.6 of Part 2 of the IA.

⁸ *Spatial risk assessment of threats to Hector's and Māui dolphins (Cephalorhynchus hectori)*, New Zealand Aquatic Environment and Biodiversity Report No. 214, Fisheries New Zealand June 2011. Link: <https://www.fisheries.govt.nz/dmsdocument/35007>

⁹ Section 2.5.2 of Part 2 of the IA.

¹⁰ Table 23, Part 2 of the IA.

¹¹ Based on the criteria developed by NIWA in 2013: <https://www.mfe.govt.nz/sites/default/files/niwa-risk-assessment.pdf>

¹² Ibid.

Vessel (CSV) winch to the chain on the seabed. I consider the scale and limited duration (<14 days) of the activity to result in very limited effects (i.e., disturbance of a few square metres of seabed). BWO report that no sensitive environments have been detected in the Tui field¹³ and any threatened fish or marine mammal species would be able to avoid any direct effects of ROV movement or vibrations¹⁴. Overall, I agree with BWO that the effects on the environment and existing interests of Activity 2 are likely to be negligible.

Activity 4 Disconnection – Mooring systems

The disconnection activities are described as CSV and Head Control Vessel (HCV) presence in the field (covered under Activity 1) and ROV operations (covered above, except for the cutting of mooring lines). BWO state these operations will take place after the proposed disconnection and temporary placement of the Subsea Umbilical Riser and Flowline (SURF) system¹⁵. The effects on the environment of the disconnection of the SURF systems may affect the environment within which this activity (the disconnection of the mooring systems) will occur. BWO have not described these effects in this request. I consider this acceptable as the disconnection of the mooring system is an independent activity of the disconnection of the SURF system and I note that the consideration of the disconnection of the SURF system will be covered in BWO's ruling request lodged on 18 February 2020. That request must account for all future effects (i.e., reasonably foreseeable effects) including the effects of disconnecting the mooring lines (should this ruling be provided).

Cutting the mooring lines will be undertaken by an ROV equipped with a diamond cutter at approximately 20 m under the FPSO and on the seabed at approximately 150m from the anchors (should e anchor retrieval be unsuccessful after initial attempts). In section 2.5.8 of Part 2 of the IA, BWO refers to the descriptions of this activity in the IA for the ruling request by Tamarind Taranaki Limited (EEZ500022)¹⁶. The primary effects of the cutting activity is vibrations in the water column. BWO has not provided an in-depth description of the noise that may arise from cutting the mooring lines. However, I consider that, in a worst case scenario where the noise from cutting the moorings lines exceeds the Temporary or Permanent Threshold Shift of any marine mammals or fish, that the risk would not be more

¹³ Section 1.2.1.1 of Part 2 of the IA.

¹⁴ Page 50 of Part 2 of the IA.

¹⁵ Section 5.1.2 of Part 1 of the IA.

¹⁶ Section 2.2.1 of the IA submitted by Tamarind Taranaki Limited for its Ruling request EEZ500022.

than low due to the very short duration of the activity; the cutting of the mooring lines will take no more than 30 minutes per line¹⁷.

Disconnection of the last anchor will change the FPSO Umuroa from an offshore installation to a ship under the EEZ Act. The effects on the environment and existing interests of the change in definition and removal of the FPSO is discussed below under Activity 8 – FPSO Sail Away.

Activities 6 and 7A Mooring line and anchor retrieval

Part 1 of the IA describes that before the mooring lines are cut, they are tethered to the CSV which will winch in each mooring line until only 150 m of mooring chain remains attached to the anchors. At this stage, one of two activities may occur:

1. The remaining mooring line and anchors will be hauled onto the CSV and removed (Activity 6 and 7A), or
2. The remaining mooring line and anchors will be placed temporarily on the seabed, before being retrieved at a later date (Activity 7B).

The removal of the mooring lines and anchors will disturb the seabed. BWO describe the removal of the anchors and mooring lines as¹⁸:

1. Removing habitat that may influence fish or benthic invertebrate distributions (e.g., aggregations). BWO note, and I agree, that subsea structures (e.g., the mooring lines and anchors) likely act to congregate fish. I also consider that these structures may act as a refuge for smaller fish species, and that the removal of these structures will remove this artificial habitat in what is otherwise a low-relief environment. I agree with BWO's assessment that the habitat removed is not known to be home to protected species or sensitive environments and that the marine invertebrates and fur seals that may use this habitat are widely distributed throughout the Area of Interest and wider South Taranaki Bight. I agree with BWO that the risk to the environment of removing this habitat is negligible.
2. Disturbance to seabed and resuspension of sediments. BWO describe potential adverse effects as physical suspension (i.e., clogging gills/filter feeding structures of benthic invertebrates and reducing light penetration), potential ecotoxic effects of harmful substance entrained in the sediment, and smothering of nearby organisms (i.e., sediment build up). BWO describe the total area of seabed occupied by the 150 m of mooring lines and anchors as 238 m². The additional sections of mooring

¹⁷ Section 5.2.2.1 of Part 1 of the IA.

¹⁸ As described in the Activity Specific EPA v0-180220 (003).

lines that may be on the seabed occupy an area up to 936 m²¹⁹. This is a total of approximately 1,174 m² of seabed that will be disturbed by removing all the mooring lines and anchors. I agree with BWO that mobile species (e.g., fish, marine mammals) will be able to avoid the effects of sediments and the effects on these receptors are likely to be limited to eggs/larvae. However, I agree with BWO that the disturbed area is not critical habitat for any fish or marine mammal species which are described as either transient or widespread throughout the South Taranaki Bight.

I agree with BWO that potential suspended sediments volumes are expected to be low and there is limited potential for ecotoxicity in the surface sediments based on recent survey data the Tui Field in 2018²⁰. There is a possibility that some of the disturbed sediments may contain higher levels of potentially ecotoxic contaminants that what was identified in the surveys. If this sediment was disturbed it may cause ecotoxic effects on benthic organisms that are exposed to the suspended sediments if exposed for sufficient duration. I consider the potential risk to benthic organisms of ecotoxic effects to be low because the sediments are unlikely to be ecotoxic and the organisms in the area are typically widespread and are likely to be relatively fast to recover. I note there is some uncertainty around the extent to which the oil spill on 24 November 2019 in the Tui Field affected the concentrations and distribution of Tui crude oil in the water column or the seabed near the Tui-2H flowline. On 21 February 2020, BWO provided its opinion that the spill was small in size and scale (up to 100L spilt) and would not have long lasting or adverse environmental effects²¹. RPS provided information on the properties and potential effects of an oil spill of Tui crude oil for Tamarind Taranaki Limited's applications for marine consent and marine discharge consent²². This information offers a useful comparison to understand the potential effects of the November 2019 oil spill. The Board of Inquiry for those applications heard that any seabed release of oil would be rapidly transported to near surface waters²³ with the majority of the spilled oil lost to evaporation. The remaining oil would be dispersed and may be mixed back

¹⁹ Based on the mooring line dimensions provided in Table 5 or Part 1 of the IA.

²⁰ Section 1.1.3 of Part 2 of the IA.

²¹ BWO email to EPA dated Friday 21 February 2020.

²² EEZ100016 <https://www.epa.govt.nz/assets/FileAPI/proposal/EEZ100016/Applicants-proposal-documents-Further-information-requests-and-response/c1464358b4/Tamarind-Response-to-FIR-1-and-2-re-consents-operations-and-modelling-24-07-2018-EEZ100016.pdf>

²³ Statement of Expert Evidence of Brian Alfred King for Tamarind Taranaki Limited, 20 July 2018.

into the water column²⁴. The Board of Inquiry heard that unplanned hydrocarbons spills in the Tui field (in volumes that are orders of magnitude greater than what is described as having occurred in November 2019) are unlikely to affect the benthic sediments and communities due to the depth of the water but may cause mortality among planktonic organisms²⁵. I consider that BWO's conclusions in relation to the effects on the environment of the oil spill in November 2020 are broadly consistent with these descriptions, and are commensurate to the substantially smaller scale of the release. Based on the information provided by BWO, I consider that any effects on the existing environment from that spill are unlikely to have a present effect on the sediments or water quality in the Tui field.

BWO describe the impacts of suspended sediment and smothering on benthic communities adjacent to the mooring lines and anchors on the seabed. BWO stated that no critical habitat or sensitive habitat is expected to be affected, the effects will be short in duration, localised, and recovery will occur within days²⁶. BWO has informed the EPA that the anchors have not been removed since they were placed in 2007. The 'breaking out' of the anchors from the seabed may generate substantial concentrations of re-suspended sediments over a localised area that may cause direct mortality to nearby sedentary or slow-moving organisms. However, each anchor occupies a relatively small area²⁷ of seabed and although some mortality will occur in benthic communities adjacent to the mooring lines and anchors and I agree with BWO's conclusions no sensitive habitat is expected to be affected, the effects will be short in duration and localised, with recovery expected over months.

3. Removal of structures on seabed – fishing obstacles. The locations of the anchors and mooring lines are fully within an established Protection Area under the Submarine Cables and Pipelines Protection (Tui Area Development) Order 2007²⁸ and partly within the safety zone established in a 500 m radius around the Umuroa

²⁴ Ibid.

²⁵ Paragraph 400, Decision on marine consent and marine discharge consent applications of the Board of Inquiry into Tamarind Taranaki Limited Development drilling activities in the Tui Field, offshore Taranaki, EEZ100016.

²⁶ Table 26 of Part 2 of the IA.

²⁷ Up to 238m², including 150m of mooring chain attached to each anchor.

²⁸ <http://www.legislation.govt.nz/regulation/public/2007/0201/latest/DLM443031.html>

under the Continental Shelf (Umuroa Installation Safety Zone) Regulations 2008. These areas prevent those persons with commercial or customary fishing interests from exercising those interests in the areas of seabed where the anchors and mooring lines are placed. If the Umuroa leaves this area, and there is no longer any 'installation or device' in the area, the safety zone may no longer apply under the Continental Shelf Act 1967. However, the Ministry of Transport provided advice to the EPA that the Protected Area under the Submarine Cables and Pipelines Protection Act 1996 would be unaffected by the removal of the Umuroa. I consider that the sailing away of the FPSO Umuroa will not provide additional areas for commercial fishing within FMA 8 unless the Protected Area is no longer in effect. This may occur in circumstances where the remaining production infrastructure in the Tui Field is decommissioned in the next five (5) years.

Activity 7B temporary placement

Table 12 of Part 1 of the IA states that the nine (9) anchors and up to 150 m mooring lines may be laid on the seabed after disconnection and retrieved after the FPSO has moved out of its moored location. Table 26 of Part 2 of the IA states that the temporary placement activities will be followed by either retrieval (as per Activity 7A) or dumping through a marine dumping consent application. On 3 February 2020, BWO clarified its intention that mooring lines and anchors will be retrieved at the same time where possible and Part 2 of the IA was amended to state that structures placed the seabed are done so in "*a temporary capacity pending future plans and options for retrieval can be made*"²⁹ and is aligned to the expiry of the Petroleum Mining Permit (PMP) 38158 (24 November 2025). Therefore, the maximum duration of the temporary placement would be five (5) years and nine (9) months.

BWO estimate the total area of seabed that would be occupied by the anchors and remaining mooring line would be 238 m². As this area is already being occupied by these structures, BWO's assessment and my considerations of effects of this activity is focused on what effects arise, or change, from the continued presence of these structures in their current locations. BWO note these structures currently form habitat for fish and benthic species and would continue to do so after being temporarily placed on the seabed for five (5) years and nine (9) months. I agree with BWO's conclusion that the continued presence of these structures would have a negligible effect on habitat available for fish, or disturbance to benthic communities.

²⁹ Page 50 of Part 2 of the IA.

I consider the adverse effects on existing interests of this placement activity is likely to be minor on commercial and customary fishing interests. BWO did not consider that persons with existing interest would be directly affected by the proposed works³⁰ which includes the continued, temporary presence of mooring lines and anchors in the Tui Field.

In the circumstances where the remaining production infrastructure in the Tui Field is decommissioned and wholly removed in the next five (5) years and the Protection Area and Safety Zone are not in effect, the extent of the area that may be made available to fishers could be limited by anchors on seabed that are yet to be retrieved. In the worst-case, all nine (9) anchors with mooring line would be placed on the seabed for duration of PMP38158. The occupied area is a small proportion of the Tui Field and very small proportion of the South Taranaki Bight and any exclusion would end after the anchors and lines have been removed. I consider that the anchors would exclude the use of the area to fishers for the duration of their placement and that this effect is likely to be less than minor due to the limited scale of the exclusion.

While I consider these effects on existing interests to be less than minor minor, I consider this effect may be reduced further should BWO be required to retrieve the anchors sooner than by the end of the PMP38158 in 2025.

Activities 8 FPSO sail away

I do not consider this activity to trigger any part of section 20 of the EEZ Act and therefore does not require a ruling to be undertaken³¹. However, this activity does form part of the programme of works that is proposed to be undertaken by BWO and will take place as a necessary consequence of restricted activities that are proposed to be carried out as part of the wider disconnection programme of work. I have therefore considered the effects of these wider but necessary activities to ensure that all consequential effects of the restricted activities are considered. BWO has identified the adverse effects of removal of the FPSO as potential for unplanned leaks or spills that arise through vessel operations (including potential fuel offtake)³². BWO consider these unplanned events to pose a medium risk to the environment and list its mitigation measures as following procedures under an Oil Spill

³⁰ Section 2.5.6 of Part 2 of the IA.

³¹ Table 1 of the decision memorandum.

³² As described in the Activity Specific EPA v0-180220 (003).

Contingency Plan/Emergency Spill Response Plan³³ which must include, *inter alia*, guidance to ensure the safety of personnel, measures to prevent the occurrence of a spill, and information to help personnel deal with a spill by detailing the actions necessary to stop, minimise, or mitigate the effects of a spill.

I consider these plans are appropriate to mitigate these risks while the FPSO is classified as an installation, but not once it is classified as a vessel. These plans are not required to be adhered to once the FPSO is disconnected from the seabed and is no longer considered to be an installation. Upon disconnection, the responsibilities of any risk of a spill from the vessel is covered under the Shipboard Oil Pollution Emergency Plan (SOPEP) and clean up response covered by Maritime New Zealand.

Cumulative effects on the environment

I have turned my mind to the cumulative effects of BWO's proposed activities that arise over time or in combination with other effects. I consider these adverse effects likely to be minor or less than minor on the environment. BWO's impact assessment considers the 'sensitivity' of environmental receptors which takes into account rarity, the protected or threatened status of certain receptors, and the value placed on such aspects or receptors some of the areas of the existing environment. BWO also describe normal/simultaneous operations that may be generating effects additively or synergistically with the proposed activities but which are not subject to the ruling request. This information is taken into account in the impact assessment undertaken by BWO. I consider this approach to cumulative effects provides sufficient information for me to understand the potential cumulative effects of undertaking the proposed activities.

Specifically, I consider that:

1. Water quality may be affected temporarily near the seabed as sediments are re-suspended by the removal of the mooring lines and anchors (Activities 6 and 7A). However these are unlikely to affect any primary production due to the depth of the disturbance. I consider that no other proposed activities are likely to affect water quality. I note that authorised production discharges (EEZ300006) which may have adverse effects on water quality have ceased and are not anticipated to be undertaken simultaneously with the proposed discharges (although BWO have considered this). I consider the effects on water quality to be negligible.
2. Effects on primary productivity by the proposed activities are not likely to be detectable. Some of these organisms are sensitive to water quality but as noted

³³ Required under Part 131 of the Marine Protection Rules, and Regulation 24 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects - Discharge and Dumping) Regulations 2015.

above, I expect effects on water quality from all activity to be negligible. I consider the cumulative effects on primary productivity to be negligible.

3. Benthic communities are likely to be affected by ROV operations near the seabed (Activity 2), and removal of the mooring lines and anchors (Activities 6 and 7A), and temporary placement of the anchors and any remaining mooring lines (Activity 7B). I consider the temporary placement of the anchors and mooring lines would have a negligible adverse impact on benthic communities, however ROV activity and removal of mooring lines and anchors may generate sediment re-suspension potentially smothering or causing ecotoxic effects on benthic communities. These disturbances are likely to take place over the same area, potentially causing additive effects on benthic organisms adjacent to the mooring lines anchors due to increased frequency of sediment deposition. However, the combination of these activities is not likely to increase the scale of the activity and given the scale is very limited (1,174 m² in total) and duration (days), I consider these effects would not affect any organisms on a population level and recovery would be likely to occur within months. I consider these effects to be less than minor.
4. Fish are likely to be adversely affected by re-suspension of sediments due to ROV operations near the seabed (Activity 2), and removal of the mooring lines and anchors (Activities 6 and 7A) potentially clogging gills and temporarily reducing visibility adjacent to the anchors and mooring lines. The removal of structures on the seabed will remove artificial habitats that may act to congregated and shelter fish. Vibrations in the water column due to cutting of the mooring lines (Activity 4) may have adverse effects on fish in the immediate vicinity of the ROV but effects would likely be short (30 mins per line) and not overlapping with effects of any other activity under this ruling request. I consider that these effects are not likely to be cumulative on any fish on the AOI and that each activity is likely to result in displacement of fish, rather than direct mortality. The loss of potential benthic prey species adjacent to, or on, the mooring lines or anchors would be of minimal impact to fish populations given the widespread nature of these species. I consider the cumulative effects on fish (including any commercially fished species) from the proposed activities to be negligible.
5. Marine mammals are likely to be affected by increased vessel activity (Activity 1) and vibrations in the water column that may be caused by the operation of the ROV and cutting of the mooring lines. The limited duration of activities (up to 40 days) and scale of the effects (limited to within a few square kilometres) reduces the likelihood of adverse effects on any marine mammals. These activities are unlikely to have any cumulative impact and I consider the risk to marine mammals could be

at worst low³⁴ based on vessel strike to Maui Dolphins. I consider this potential adverse effects likely to be no more than minor.

Effects on existing interests

In section 4.1 of Part 1 of its IA BWO has described the persons it considers hold existing interests that may be affected by the proposed activities. These include navigation rights holders, fishing rights holders, Tamarind Taranaki Limited, Taranaki Iwi and Ngāti Tara hapū, and all iwi with fisheries assets. BWO did not seek views of persons with existing interests that may be affected by the proposed activities³⁵. While consultation is not required under the EEZ Act between the requestor and persons with existing interests, I considered the information provided in the Impact Assessment and any further information responses by the requestor to be insufficient to determine the effects on some persons with existing interests. I sought further information directly from these persons to inform my assessment, and with their responses, I consider that I have sufficient information to understand the effects on persons with existing interests. I consider the effects on existing interests, including Māori existing interests, below.

Information sought in relation to existing interests

I sought the view of several parties with existing interests in order to fully understand the extent to which those existing interests may be affected by the proposed activities.

I consider Tamarind Taranaki Limited (in Receivership and Liquidation) (Tamarind) are an entity whose existing interests are likely to be affected by the proposed activities. BWO did not seek the views of Tamarind in respect of its ruling request. On 9 March 2020 Tamarind provided an explanation of its existing interest in the Tui Field and a description of how those interests may be affected by the proposed activities. These are discussed below.

BWO also did not seek the views of iwi on the ruling requests. On 27 February 2020, the EPA identified the iwi that it considered may be affected by the rulings and sought the views of those iwi on 28 February 2020. The EPA also approached its Māori Advisory Committee, Ngā Kaihautū Tikainga Taiao (Ngā Kaihautū) to provide advice on which iwi should be asked for comment. Ngā Kaihautū noted and encouraged EPA engagement with iwi in Taranaki but decided not to provide a substantive response. Ngāti Ruanui, Ngā Ruahine, Taranaki iwi, and Te Āti Awa are all present in the wider geographic area to the PMP38158.

³⁴ Based on the risk assessment criteria developed by NIWA in the document titled *Expert risk assessment of activities in the New Zealand Exclusive Economic Zone and Extended Continental Shelf, May 2012, CR124*.

³⁵ BWO sent a letter on 11 February 2020 informing persons with existing interests and other parties of its intentions to leave the Tui field. This letter did not invite comment from parties.

Both BWO and Ngāti Ruanui acknowledged the activities are planned to take place in the rohe of Taranaki Iwi.

The iwi the EPA engaged with are;

1. Taranaki iwi,
2. Ngāti Ruanui,
3. Ngā Ruahine, and
4. Te Āti Awa

On 9 March 2020 Ngāti Ruanui and Taranaki Iwi responded to the EPA's request. No response was received from Ngā Ruahine nor Te Āti Awa.

The responses received canvassed a range of matters related to the ruling request. Some of these matters relate to both existing interests and cultural values held by those iwi. Other matters are beyond the scope of consideration under sections 59, 60 and 61 of the EEZ Act. I describe the matters raised by each iwi below and I make the distinction between effects on existing interests and cultural values in this assessment. I consider it appropriate to consider effects on existing interests here under s 59(2)(a). I consider cultural values to be a relevant matter for determining the ruling and have considered these effects under section 59(2)(m).

Section 4 of the EEZ Act defines 'existing interest' as being the interest a person has in various specified matters, which for Māori include:

- (a) any lawfully established existing activity, whether or not authorised by or under any Act or regulations, including rights of access, navigation, and fishing:
- (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

These matters are addressed specifically for Māori interests in my considerations below.

- (a) Any lawfully established existing activity, whether or not authorised by or under any Act or regulations, including rights of access, navigation, and fishing:

Commercial fishers that hold quota within Fisheries Management Area (FMA) 8:

I consider that there is sufficient information to address effects on persons with commercial fishing interests in FMA 8. I consider the effects of the activities on fish (including

commercially caught species) from the activities is negligible. On this basis, I consider the effects on fishers (including iwi with established fishing rights) would not be affected due to impacts on fish.

As previously discussed, in the circumstances where the FPSO is removed from the Tui Field, and the Safety Zone and Protection Area are no longer in effect fishers may be excluded from the area where the anchors have been placed on the seabed. This is a small area in PMP38158 and I consider these effects likely to be less than minor.

Existing Activities undertaken by Tamarind in PMP38158

Tamarind provided a response to the EPA's request for information on 9 March 2020. However, Tamarind's response was not substantive. Instead it deferred to the its parent company Tamarind Group.

Tamarind Group list its subsidiary's (Tamarind) existing interests in the Tui Field as:

- a. Wells and subsea trees,
- b. The flowline and riser system,
- c. Gaslift lines and riser system,
- d. Umbilicals and control system,
- e. Gaslift manifold and distribution unit, and
- f. Mid-water arches.

This is consistent of the statements made by BWO throughout its IA and further information received. I consider this list of interests is appropriate to adopt on a factual basis.

None of the technical matters raised in Tamarind Group's response relate to the disconnection of mooring lines or retrieval of anchors that are subject to this ruling request. Tamarind Group states that its subsidiary had the opportunity to review the disconnection procedure that included disconnection of the mooring lines and confirmed that it had no further comments on the matter to raise with BWO.

Based on this information I consider that Tamarind's existing interests (in terms of its assets listed above) are not likely to be adversely affected by the proposed activities.

I note that Tamarind has authorisations for lawfully established existing activities under the EEZ Act, including:

- a. The installation of equipment at Pateke-4H (EEZ0110), and
- b. The replacement of anode skids (EEZ500025).

Tamarind did not comment on the effects of the proposed activities on any of the lawfully established existing activities that it has authorisation for under section 162 of the EEZ Act. I

do not consider these existing activities are likely to be adversely affected by the proposed activities.

Māori existing interests

The discussion above includes commercial fishing. Under the Māori Fisheries Act 2004, recognised iwi were allocated fisheries assets such as fishing quota. This establishes that there may be iwi with existing interests that may be affected by the proposed activity.

Taranaki iwi and Ngāti Ruanui both confirmed they have fishing interests in the Tui Field. I note this interest is shared by many iwi.

In its response to the EPA request for further information, Taranaki Iwi stated that structures left on the seabed, even in a temporary capacity, may provide an obstruction to its fishing interests in the Tui Field³⁶. This concern is most relevant if the Safety Zone and Protection Zone are removed from around the Umuroa. I agree this may have an adverse effect on fishing interests in FMA 8 and have suggested that the duration of placement of the anchors is restricted to minimise this impact.

(b) Any activity that may be undertaken the authority of an existing marine consent granted under section 62:

Tamarind are the only holder of marine consents under section 62 of the EEZ Act in the Tui Field that may be affected by the proposed activities. Tamarind's marine discharge consent for produced water is directly linked to the Umuroa (EEZ300006) and will no longer be able to be exercised if the Umuroa is no longer operating in that field.

In its response to the EPA's further information request, Tamarind did not raise any concerns as to how its existing consented activities may be affected by BWO's proposed activities.

(c) Any activity that may be undertaken under the authority of an existing resource consent granted under the Resource Management Act 1991:

I agree with BWO that no resource consents that have been granted under the Resource Management Act 1991 share a common area with the activities in Tui Field (where all the effects are expected to occur) due its distance from the Coastal Marine Area³⁷.

³⁶ Para 12 – 13 of Taranaki Iwi's response dated 9 March 2020.

³⁷ Page 44 of Part 1 of the IA.

(d) The settlement of a historical claim under the Treaty of Waitangi Act 1975:

Māori existing interests

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. Of particular relevance to this request is a statutory acknowledgement that Taranaki Iwi exercises mana whenua and mana moana from Paritutu in the north around the western coast of Taranaki Maunga to Rāwa o Turi stream in the south and from these boundary points out to the outer extent of the exclusive economic zone³⁸.

BWO recognise Taranaki Iwi's claim under the Taranaki Iwi Claims Settlement Act 2016 (Settlement Act) within the Coastal Marine Area and the mana moana exercised by Taranaki Iwi into the EEZ in an area that overlaps with the Tui Field³⁹. The EPA requested information from Taranaki Iwi on its existing interests in the field and how it considers those interests may be affected. Taranaki Iwi responded citing that temporary change to the seabed contributes to its conclusion that adverse of any release from the flowlines during disconnection may be Moderate or Major in its mauri matrix⁴⁰. This is covered under section 59(2)(m).

Ngāti Ruanui, responded to the EPA's request for further information on 9 March 2020, and 11 March 2020. In its responses, Ngāti Ruanui stated it takiwa extends into the EEZ but that the Tui Field is covered by the rohe of Taranaki iwi. Ngāti Ruanui's concerns related primarily to the potential for spill risk with wide geographic impacts (and subsequent effects on its takiwa), and effects of infrastructure left on the seafloor. Matters that relate to spill risk are beyond the scope of consideration for this ruling.

The only potential for infrastructure to be left on the seafloor that applies to this ruling is the temporary placement of anchors. The effects of this activity on fishing interests is covered above. I consider that these effects on existing interests to be potentially minor.

³⁸ <https://www.govt.nz/assets/Documents/OTS/Taranaki-iwi/Taranaki-Iwi-Documents-Schedule-5-Sep-2015.pdf>, (Taranaki Iwi Claims Settlement Act 2016 refers to Taranaki Iwi and Te Kāhui o Taranaki Trust, Deed of Settlement Schedule: Documents, Page 4)

³⁹ Section 4.1.3 of Part 1 of the IA.

⁴⁰ Paras 9 and 15 of Taranaki Iwi's response dated 9 March 2020.

(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:

Māori existing interests

As discussed above, under the Māori Fisheries Act 2004, recognised iwi were allocated fisheries assets such as fishing quota. This consideration is covered under section 4(a): *Any lawfully established existing activity, whether or not authorised by or under any Act or regulations, including rights of access, navigation, and fishing.*

No Rohe Moana overlap directly with the Tui Field. The nearest is the Te Tai Hauāuru deepwater rohe moana in which all iwi from Taranaki to the top of the South Island have an interest. The northern most point of this area is approximately 8 kilometres south of the southern-most extent of the Tui Field. I consider this area to be outside the range of expected effects from the proposed activities⁴¹.

(f) A protected customary right or customary marine title recognised under the Marine and Coastal Area (Takutai Moana) Act 2011

Māori existing interests

At the time of writing this memorandum, no applications under the Marine and Coastal Area (Takutai Moana) Act 2011 have been granted in the vicinity of the Tui Field. In light of recent legal authority on the matter⁴², I have not considered that a claim under the Marine and Coastal Area (Takutai Moana) Act 2011 amounts to an existing interest as defined under section 4 of the EEZ Act.

Section 59(2)(a)(ii) any effects on the environment or existing interests of allowing the activity including effects that may occur in New Zealand⁴³ or in the waters above or beyond the continental shelf beyond the

My consideration of the effects on the environment and existing interests is set out above. I do not consider there will be any effects associated with the activities in New Zealand or beyond the outer limits of the EEZ. Effects associated with the proposed activities are likely to be limited to the immediate vicinity of the FPSO.

⁴¹ Gazetted under the Fisheries (Notification of Tāngata Kaitiaki/Tiaki for Area/Rohe Moana of Te Tai Hauāuru) Notice 2019

⁴² *Taranaki-Whanganui Conservation Board & Others v Environmental Protection Authority* [2018] NZHC 2217 at [233].

⁴³ New Zealand is defined in section 29 of the Interpretation Act (1999) as "the islands and territories within the Realm of New Zealand"

<p>outer limits of the exclusive economic zone</p>	
<p>Section 59(2)(b)(i) the effects on the environment or existing interests of other activities undertaken in the area covered by the application or in its vicinity including the effects of activities that are not regulated under this Act</p>	<p>The area where the activities are taking place is the Tui field. This area has been subjected to effects from activities that are authorised under the EEZ Act including:</p> <ol style="list-style-type: none"> 1. Production discharge activities since 2007 (EEZ300006 and preceding Discharge Management Plan), 2. Placements of various structures on the seabed (e.g. anode skids and production infrastructure under EEZ0110 and EEZ500028), 3. Offshore processing drainage (EEZ100016), 4. Exploration and development drilling activities (EEZ0104), and 5. Side-track drilling activities, and rig installation and removal (EEZ100016). <p>Sampling undertaken by Tamarind in 2018 confirmed that samples of receiving water chemical composition, sediment quality, and macrofauna compositions around the FPSO were largely similar to that of the control sites and below ANZECC sediment/water quality guidelines values where applicable. Production discharges were assessed as posing, at worst, a short-term localised effect on the surrounding environment. Based on this information, I conclude that it is unlikely that any adverse effects of the production discharges are present in the Tui Field since the cessation of production activities in November 2020.</p> <p>The anodes and production infrastructure remains in place near the FPSO. The effects of these placements were considered to be at worst, minor⁴⁴.</p> <p>Other petroleum mining activities are sufficiently separated from Tamarind's activities that effects from those activities are unlikely to result in cumulative impacts on the marine environment or existing interests.</p>
<p>Section 59(2)(b)(ii) the effects on the environment or existing interests of other activities undertaken in the area covered by the application or in its vicinity</p>	<p>I do not consider there will be any effects in New Zealand or beyond the outer limits of the EEZ relevant for consideration for this ruling request.</p>

⁴⁴ Decision memorandums for EEZ500025 and EEZ0110.

including effects that may occur in New Zealand or in the waters or beyond the continental shelf beyond the outer limits of the exclusive economic zone	
Section 59(2)(c) the effects on human health that may arise from effects on the environment	BWO considered there to be no interaction between the proposed activities and effects on human health, therefore the effects on human health were excluded in the scoping phase of BWO risk assessment ⁴⁵ . I agree that the proposed activities are not expected to cause adverse effects on the environment that will affect human health.
Section 59(2)(d) the importance of protecting the biological diversity and integrity of marine species, ecosystems and processes	As discussed under 59(2)(a), the removal of the lines and anchors from the seabed may cause mortality to a small number of sessile or slow-moving benthic organisms and expose surrounding marine fauna to elevated levels of suspended sediment. The impact of the suspended sediments on marine fauna will be small on a population scale given the relatively small area of disturbed seabed and the effects of sediment decrease sharply as the sediment is dispersed. The highly localised area of impact suggests the BWO's activities are unlikely to adversely affect the biological diversity or the integrity of marine species, ecosystems or processes in the South Taranaki Bight. I consider any effects on these receptors to be negligible.
Section 59(2)(e) the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species	Information provided in Part 2 of IA suggests that no rare and vulnerable ecosystems are present in the vicinity of the FPSO. That information is consistent with IA analyses contained in the most recent marine consent applications for the Tui Field ⁴⁶ . I consider that Tamarind's activities are unlikely to affect any rare or vulnerable ecosystems. I note that the threatened species that are known to frequent the area are highly mobile transient visitors. Some of these species (such as the Māui Dolphin) are highly sensitive to any impacts, but I consider the likelihood of any significant impacts to be so low that effects will be less than minor (as discussed under 59(2)(a)).
Section 59(2)(f) the economic benefit to New	BWO state that that the activities may benefit local service providers but the removal of the FPSO and cessation of its activities may have a negative impact by reducing available jobs ⁴⁷ . I agree with BWO's conclusions and consider any economic benefits to New Zealand

⁴⁵ As described in the Activity Specific EPA v0-180220 (003).

⁴⁶ Applications by Tamarind Taranaki Limited for marine consent and marine discharge consent (EEZ100016).

⁴⁷ Page 59 of Part 1 of the IA.

Zealand of allowing the application.	of providing this ruling would be limited to service providers involved in the disconnection activities.
Section 59(2)(g) the efficient use and development of natural resources.	<p>The proposed placement of structures on the seabed for a prolonged period of time may have an impact on the cost, time, and effort required for future re-connection of another production installation or decommissioning activities. Any anchors left on the seabed may create a hazard for the permit holder to use or develop the natural resources in the Tui Field.</p> <p>I consider the temporary placement of any anchors (Activity 7B) may result in the inefficient use and development of the natural resources within the Tui Field. I consider confining the duration of the temporary placement of the anchors and mooring lines on the seabed to the next practicable opportunity to remove it, would mitigate this impact by ensuring that the anchors are removed before another installation connects in the Tui Field. I consider an appropriate timeframe would be before 31 January 2021 – approximately the middle of the weather window for undertaking similar types of works in Taranaki.</p>
Section 59(2)(h) the nature and effect of other marine management regimes	<p>BWO must comply with a number of different marine management regimes, including those established under:</p> <ol style="list-style-type: none"> 1. The Maritime Transport Act 1994, 2. The Submarine Cables and Pipelines Protection Act 1996, and 3. The Continental Shelf Act 1964 <p>These regimes impose standards and requirements that are relevant to the environmental matters to be considered under section 59 of the EEZ Act.</p> <p>Compliance with these regimes reduces the likelihood of unanticipated events occurring, which in turn would reduce the risk of an unplanned events which may result in harm to the environment and existing interests.</p> <p>Maritime New Zealand regulate vessels in the EEZ and oil spill response for installations which is managed through the approval of an Oil Spill Contingency Plan under Part 131 of the Marine Protection Rules. Once the Umuroa becomes classified as a vessel it is required to hold a SOPEP that is approved by the flag state of the vessel (Singapore).</p> <p>The effects of the Submarine Cables and Pipelines Protection Act 1996 and the Continental Shelf Act 1964 on existing interests is considered under section 59(2)(a).</p>

Section 59(2)(i) best practice in relation to an industry or activity	<p>BWO state in its IA⁴⁸ that it is certified to the International Safety Management Code for Safety Management and Pollution Prevention, and ISO 14001: Environmental Management System. BWO state it is committed to uphold the various laws and regulations relevant to its activities.</p> <p>None of the responses received from any persons with existing interests that may be affected have raised issues with the proposed activities being undertaken in manner that is contrary to their knowledge of industry best practice.</p> <p>I consider that BWO's current certifications and its adherence to its HSE Plan that satisfied WorkSafe is sufficient to ensure these operations are undertaken in accordance with Industry Best Practice (considered under section 59(2)(l)).</p>
Section 59(2)(j) the extent to which imposing conditions under section 63 might avoid, remedy, or mitigate the adverse effects of the activity	<p>The EPA cannot impose conditions to ensure activities, to which a ruling applies, are undertaken in a particular manner, as defined in the ruling guidance document to operators⁴⁹. However, the EPA may limit the scope or duration of the proposed activities to ensure they are undertaken in a manner that is likely to have effects on the environment or existing interests that are minor or less than minor. I have discussed limiting the duration of placement activities under s 59(2)(g) above.</p>
Section 59(2)(k) relevant regulations (other than EEZ policy statements)	<p>I have given consideration to the Continental Shelf (Umuroa Installation Safety Zone) Regulations 2008 and consider that this regulation contributes to minimising the effects on existing interests by imposing a 500m exclusion zone around the FPSO <i>Umuroa</i> and the subsea infrastructure.</p>
Section 59(2)(l) any other applicable law (other than EEZ policy statements)	<p>I consider the Health and Safety at Work Act 2015 and regulations are relevant to this ruling request.</p> <p>WorkSafe New Zealand (WorkSafe) are responsible for the Safety Case approval process under the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016 which ensures that the permit operator undertakes operations in such a way that minimises the risk to human health of the activities. WorkSafe state that duties under its regulations are placed on the permit operator (Tamarind).</p> <p>WorkSafe stated the current approved Safety Case held by Tamarind does not cover the shutdown of production, flushing and purging and cleaning of the top side process units</p>

⁴⁸Page 21 of Part 1 of the IA.

⁴⁹ Guidance for existing petroleum mining operators – Rulings under 162 dated June 2015.

along with isolation, depressurisation of the disconnection of the flow lines and sail away which WorkSafe considers to be decommissioning activities.

WorkSafe explained⁵⁰ that BWO is not the permit operator, however it has provided to WorkSafe a draft HSE plan for demobilisation that would satisfy the information in a Safety Case revision once complete. This process is not a Safety Case process and there will be no formal approval process by WorkSafe.

It appears there will be no legislative requirement for BWO to adhere to its HSE plan, and any activities undertaken by BWO that are not in accordance with the existing approved Safety Case. BWO state that it will co-ordinate this process with WorkSafe.

On the basis that WorkSafe are satisfied with BWO's approach to the HSE Plan, I consider this sufficient to ensure that the proposed activities by BWO are being carried out in manner sufficient minimise the effects on human health of the activity. The basis of this consideration is that BWO will adhere to the HSE Plan that satisfies WorkSafe.

Section 59(2)(m) any other matter the EPA considers relevant and reasonably necessary to determine the application

Section 59(2)(m) of the EEZ Act does not provide unlimited scope. I cannot expand on (or take a different approach to) a specific requirement that Parliament has chosen to confine or regulate in a particular way. I 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 matters related to this ruling request. Importantly, I have been careful to consider whether a matter has been expressly addressed by another section of the EEZ Act, and therefore whether it could be capable of consideration under section 59(2)(m) of the EEZ Act.

In response to our requests for further information to Taranaki iwi, Ngā Ruahine, Te Āti Awa, and Ngāti Ruanui, iwi raised matters that relate to their cultural interests that may be affected by the proposed activities. I consider these are relevant and reasonably necessary to determine the ruling requests. This consideration is related to the assessment of Māori existing interests under 59(2)(a). Information I have considered was raised by the two iwi respondents to the EPA's request for further information; Taranaki iwi and Ngāti Ruanui.

1. Taranaki iwi:

Taranaki iwi do not directly assess the effects of the proposed activities (i.e., the disconnection and retrieval of the mooring lines and anchors) on their cultural interests, however it states if there are pollutants or contaminants present in the flowlines if they are disconnected from the Umuroa the potential effects on cultural values (using its Mauri

⁵⁰ Email from WorkSafe to the EPA dated 10 March 2020.

matrix⁵¹) would be considered as Moderate to Major. Taranaki iwi state that this effects is due in part to the long term disturbance, or temporary or permanent change to the seabed. This may be contributed to by the placement and removal of anchors on the seabed. I have taken Taranaki iwi's view into account when considering the appropriate duration for the placement of the anchors on the seabed and consider this effect may be mitigated in part by limiting the duration of placement until the next practicable opportunity to safely remove them.

Taranaki Iwi raise concerns about the health and safety of works being undertaken on the Umuroa noting it has been asked to bless such vessels and insist persons operating in its rohe are kept culturally safe. Health and safety aspects of BWO's proposed activities are being considered by WorkSafe New Zealand (as discussed under 59(2)(l)) through the review of BWO's HSE Plan. I consider this appropriate to reduce the risk to human health as low are reasonably practicable so long as BWO abide by the HSE Plan that satisfies WorkSafe.

Taranaki Iwi refer to its environmental management plan *Taiao Taiora* which states Taranaki Iwi oppose any activity which degrades the natural balance present in the living ecosystem and environment of Tangaroa-i-te-tai. I note that the EPA sought feedback from Taranaki Iwi which is consistent with its expectations set out in *Taiao Taiora*⁵².

Taranaki Iwi considers the effects of the activities proposed in this ruling, and a separate ruling for the disconnection and placement on the seabed of the subsea umbilical, risers, and flowlines (EEZ500029), to be more than minor. The assessment under 59(2)(a) concludes the effect on marine life is likely to be not more than minor and the recovery of the ecosystem after removal of the anchors and mooring lines is expected to be within the matter of months. I acknowledge there will be adverse effects on the mauri (mouri) of the environment as stated by Taranaki iwi. I consider there is some logic to the conclusion that the scale and intensity of these effects on such values (for the scope of the proposed activities) is likely to be of a similar significance to the environment effects assessed.

2. Ngāti Ruanui

Ngāti Ruanui states that it supports the stance of Taranaki Iwi as mana whenua. Ngāti Ruanui raises concerns of potential effects of this activity and another ruling request (EEZ500029) on its coastal and seaward takiwa. Ngāti Ruanui did not specify the extent of

⁵¹ Referred to in its submission on EEZ100016.

⁵² Page 18 of *Taiao Taiora* states that consultation with Taranaki Iwi is still required for any type of impact on its natural world.

its takiwa into the EEZ but it does recognise the mana whenua of Taranaki Iwi over the Tui Field.

The expected effects of these proposed activities for this ruling anticipated to be entirely with the Tui Field permit area. I note Ngāti Ruanui's concerns relating to its fishing interests and have considered these when addressing of potential effects of the proposed activities on commercial and customary fishing under 59(2)(a). I consider the effects on fishers is likely to be no more than minor.

Section 61 matters (information principles) considered	Assessment
Is there any uncertainty or inadequacy in the information available relating to the adverse effects of the activities on the environment and existing interests?	I consider the request documentation and additional information from BWO and from other parties is sufficiently certain and adequate to assess the adverse effects of the environment and existing interests.