

Appendix 3: Assessment of activities

In order to determine if the EPA can provide a ruling, an assessment of the effects of the activities must be undertaken. In carrying out this assessment, I have applied the legal framework as described in paragraphs 4 to 8 of the decision recommendation memorandum. I have reviewed the ruling request information provided by BWO and I have based my assessment of effects on the information provided in the ruling request information and further information received from BWO and other parties¹. I set out my consideration of s 59 and 60 matters below. This is followed by an analysis in relation to the information principles in s 61 and finally against the decision-making criteria under s 10(1) of the Act.

Section 59 matters	Assessment
Section 59(2)(a)(i) any effects on the environment or existing interests ² of allowing the activity, including cumulative effects	<p>Effects on the environment</p> <p>Part 2 of BW Offshore’s Impact Assessment (IA) describes the sensitivity of various environmental receptors and potential impacts of the activities on the water column/quality, fish and marine mammals, and benthic communities. 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>Activities 1 and 8 are the same as under Ruling EZ500028.. The effects on the environment and existing interests are considered in detail in Appendix 3 to that Ruling Request recommendation memorandum³. I adopt the conclusions in that report and do not repeat them here. For completeness, the activities are listed below:</p> <ul style="list-style-type: none">a. <u>Activity 1</u>: FPSO Preparation and demobilisation preparatory works,b. <u>Activity 8</u>: FPSO sail away. <p><u>Activity 2: Surveys and Inspections (ROV operations).</u></p> <p>Activity 2 was considered under Ruling EEZ500028 as it applied to Activities 4, 6, and 7. This activity related to the connection and disconnection of strops and slings from the</p>

¹ Appendix 4 lists the further information received from BWO and other parties when considering this ruling request.

² “Existing interests” is defined in s 4 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012.

³ Appendix 3 to Ruling request recommendation memorandum EEZ500028:
https://www.epa.govt.nz/assets/Uploads/Documents/Marine-Activities-EEZ/Activities/EEZ500028_BWO_Decision_Appendix_3_Section_59_assessment.pdf

mooring lines. In the current Ruling request, Activity 2 relates to the connection and disconnection of strops and slings from the Subsea Equipment (SSE).

This is an activity that is restricted under ss 20(2)(b) and (c) and was not assessed nor authorised under EEZ500028. However the effects of the current Activity 2 are the same as for the Activity 2 that was considered under Ruling EEZ500028. I adopt that assessment here.

For the same reasons in EEZ500028, I agree that the effects on the environment and existing interests of these restricted activities involved in the current Activity 2 are likely to be negligible.

Activity 3: Disconnection – Subsea equipment (SSE)

In section 5.4 of Part 1 of the IA, BWO describe Activity 3. I have summarised this as:

- a. Divers disconnecting I-Tube bottom flange bolts and installing slings and wires,
- b. Pulling in the end of the riser up to the top-side of the FPSO,
- c. Capping the end of the risers,
- d. Lowering the riser to prepare for placement on the seabed.

BWO has considered two possible ways it could disconnect from the risers; without flushing the harmful substances from the production flowlines and risers (Activity 3) or with flushing of the production flowlines and risers (Activity 3A). BWO has undertaken a comparative assessment of the two options⁴ and has proposed to undertake the no flushing option (Activity 3). My assessment below is limited to BWO undertaking Activity 3 and no other alternatives. On 13 March 2020, BWO informed the EPA that flushing of the gas lift lines and umbilicals has taken place since the ruling request was lodged with EPA. The flowlines and risers containing reservoir fluids had not been flushed and the risers have been disconnected but are not yet lying on the seafloor. The activities undertaken appear to be consistent with BWO's description of Activity 3.

In its assessment of effects BWO has considered the effects of Activities 3 and 5 jointly. Where Activity 5 is the primary driver of those effects, I have addressed them under my consideration of Activity 5 below.

BWO state that both Activity 3 and 5 pose a spill risk that may cause adverse effects on the environment. I address this here, under Activity 3, and note this same conclusion also applies to Activity 5.

⁴ Section 2.6.2 of Part 2 of the IA.

In its review, Petrofac provided advice on the risk of a spill occurring as a result of BWO undertaking Activity 3. This included the risk of:

- a. a spill of fluids from the Subsea Umbilical Riser and Flowline (SURF) system, and
- b. a spill of fluids from the reservoir.

I address the effects (notably future effects) that may arise from undertaking Activities 3 and 5 separately below but I note that these two risks are related. The SURF system acts as a barrier to the flow of fluids from the reservoir into the marine environment. Therefore, integrity of the SURF system affects the likelihood of a spill from the reservoir entering the marine environment.

Effects arising from a spill of fluids in the SURF system

The SURF system that contains fluids is comprised of 12 lines that connect the five wells to the FPSO. Four flowlines, four gaslift lines, and four umbilical lines. Petrofac state the flowlines have integrity issues and there is a known rupture in the Tui-2H flowline. The degraded state of these lines and the risk they pose are relevant for my consideration in so far as they form part of the whole Tui oil field infrastructure system and existing environment against which I have considered BWO's activities. BWO's proposed Activity 3 involves installing a cap on the end of each riser. Petrofac note that as a result of BWO not proposing to pressure test the cap on the end of the risers it is likely that fluids will eventually leak into the marine environment⁵. This scenario may cause future effects on the environment. I assess this below.

1. Effect of substances in umbilicals

BWO state the umbilicals have been flushed and replaced with hydraulic fluid (Transaqua)⁶ except for the Tui-2H umbilical line which contains the demulsifier DMO-29949. Transaqua does not meet the definition of a harmful substance under Exclusive Economic Zone and Continental Shelf (Environmental Effects – Discharge and dumping) Regulations 2015. Therefore, I do not consider it to have ecotoxic effects or to warrant further discussion in this assessment. DMO-29949 is ecotoxic to the aquatic environment. The volumes of this substances in the Pateke lines are specified in part by BWO. BWO estimate the total volumes of DMO-29949 in these lines to be approximately 950 L⁷. DMO-29949 is likely to

⁵ Page 10 of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

⁶ Email from BWO to EPA dated 13 March 2020.

⁷ Based on further information responses by BWO provided on 11 March 2020.

be ecotoxic to the marine environment if not highly ecotoxic⁸. These lines are not under pressure. A leak of DMO-29949 is likely to be gradual (i.e., via diffusion) and will be largely be limited to the immediate vicinity of the umbilical lines. Without information as to the biodegradability or bioaccumulative potential of this substance it is difficult to assess the duration of any ecotoxic effects on the environment. However, I consider the scale of any effects is expected to be very small as the rate of release is expected to be low. Assuming that this substances does bioaccumulate and does not biodegrade, I consider both acute and chronic effects to the local sessile or slow-moving fauna are possible. Even so, I expect these effects will not be felt at a population level and recovery would be likely to occur within months. I consider the likely effects on the environment of this discharge to be *negligible*.

2. Effects from substances in gaslift lines

BWO state the gaslift lines have been depressurised, purged with nitrogen, and capped⁹. Petrofac raised that there may be residual amounts of compressor oil still within these lines that may escape into the marine environment. BWO have not described the volumes of compressor oil that may be in the gaslift lines. As Petrofac has described these volumes as 'residual' I consider that, even if these were ecotoxic, the volumes and duration of release will likely be limited. I consider it highly likely these effects would be minor or less than minor on the surrounding marine environment.

3. Effects from substances in production lines

The total volume of fluids in all production flowlines and risers is estimated to be up to approximately 490,000L at a concentration of 30,000 ppm (based on 14,800L¹⁰ of oil forming 3%¹¹ of the total fluids). Petrofac estimate a spill of this fluid into the surrounding environment to be increasingly likely over the long term (5-10) years¹². I note PMP38158 is due to expire in November 2025 (5 years 7 months).

Petrofac describe the worst-case scenario as being a very likely scenario; that over the long-term the valves in the wellhead will fail, pressure will build in the production flowlines and risers and this will leak out through either a poor seal or a rupture. This would result in

⁸ Based on information held in the EPA hazardous substances database. Noting information on this substances is limited.

⁹ Ibid.

¹⁰ Estimated from Petrofac's report dated March 2020. I note this is broadly consistent with BWO's estimate of 74.5 bbl, as per page 65 of Part 1 of the IA.

¹¹ Page 23 of Petrofac's report of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020. BWO estimate a concentration of 2%, as per page 65 of Part 1 of the IA.

¹² Page 10 of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

the full volume of the fluids in the compromised production flowlines and risers being released into the marine environment over time. Based on Petrofac's assessment, I consider it likely that this initial volume of 490,000L would be discharged, albeit relatively slowly.

When assessing the effects of this scenario, I have turned my mind to a report by RPS that 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 consent¹³. This information offers a useful comparison to understand the potential effects of a spill from the production lines after they have been disconnected from the FPSO. The Board of Inquiry for those applications heard that any seabed release of oil would be rapidly transported to near surface waters¹⁴ with the majority of the spilled oil lost to evaporation. The remaining oil would be dispersed and may be mixed back into the water column¹⁵. The Board of Inquiry heard that unplanned hydrocarbons spills in the Tui field (in volumes that are orders of magnitude greater than what is likely to occur as a result of Activities 3 and 5) are unlikely to affect the benthic sediments and communities due to the depth of the water but may cause mortality among planktonic organisms¹⁶. The Board heard there may be also adverse effects on marine mammals and seabirds from the spill of Tui crude. As the scale of spill from the production lines may be much smaller, I consider it reasonable to consider that any effects are likely to be similar in nature but on a far smaller scale, with the majority of effects localised to the water column and surface waters above the compromised flowline. I do not consider the effects to have population effects on any organisms due the relatively short duration of any spill and relatively rapid recovery time (months) for affected organisms. On this basis, I consider the risk of spill from the lines is likely to have a *minor* effect on the environment, which Petrofac consider is increasingly likely to occur over the medium to long term.

Effects arising from a spill of fluids in the reservoir

BWO recognises the exit of the FPSO from the Tui Field removes a source of monitoring and control over the subsea infrastructure which may affect the potential for discharges into

¹³ 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>

¹⁴ Statement of Expert Evidence of Brian Alfred King for Tamarind Taranaki Limited, 20 July 2018.

¹⁵ Ibid.

¹⁶ 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.

the marine environment¹⁷. Petrofac advised it is very likely that valves on the wellheads are not sealing against pressure and it is likely that dual barriers are not in place on some wells ensuring the release of hydrocarbons over the medium and long term¹⁸. Petrofac states the FPSO contains the boarding valves on the vessel that would prevent flow of reservoir fluids to the environment in the short, medium or long term¹⁹. Specifically, Petrofac states the spill risk profile from the subsea assets would be higher if the FPSO disconnects from the SURF system as proposed by BWO²⁰.

BWO provide a brief description of effects from unplanned spills under section 2.5.3.2 of Part 2 of the IA noting that the risks from a spill range from *low* to *medium*. BWO state those risks are effectively outside of the scope and control of BWO. In my view, and based on Petrofac's advice²¹, if BWO undertake Activities 3 and 5 as proposed, it increases the likelihood of an unplanned spill event occurring. I consider this to be a potential future effect on the environment and existing interests that directly arises from undertaking Activities 3 and 5. Therefore, I consider it relevant to take those effects into account when determining whether the adverse effects on the environment or existing interests of undertaking Activities 3 and 5 are likely to be minor or less than minor.

Petrofac raise that normal industry practice in these circumstances would be to suspend the field²². Field suspension is described by Petrofac as, *inter alia*, removing hydrocarbons from the flowlines, installing additional barriers, and verifying existing and new barriers to ensure each barrier functions effectively to contain the reservoir fluids²³. These actions reduce the

¹⁷ BWO FPSO App 2-SSE_Activity Specific ERA_ v0_170220.

¹⁸ Page 10 of Petrofac report titled Addendum (1) to FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 26 March 2020.

¹⁹ Page 28 of Petrofac's report of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

²⁰ Page 9 of Petrofac's report of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

²¹ Page 11 of Petrofac report titled Addendum (1) to FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 26 March 2020

²² Page 35 of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

²³ Ibid.

likelihood of a spill from the remaining infrastructure. I take into account industry best practice under s 59(2)(i).

I consider this approach is not consistent with the approach proposed by BWO. BWO are proposing to install only one barrier, the end caps on the risers. BWO are not proposing to test this barrier. Petrofac raise that without this barrier being pressure tested, it is likely that fluids will eventually leak into the marine environment²⁴. Petrofac identified that reservoir pressure will increase over the medium to long term (9 months – 10 years)²⁵ and if BWO were to disconnect from the subsea infrastructure as proposed, a spill from the reservoir and flowlines into the marine environment is likely over that same period. Further, Petrofac state a worst-case spill scenario is unable to be predicted due to the uncertainty and inadequacy of the information available²⁶.

BWO asserted there are no flows from wells currently and that it has no historical inspection reports for the subsea assets as this is owned by Tamarind²⁷. Tamarind confirmed to the EPA that no pressure testing or in-flow testing was undertaken when the field was shut-in in November 2019, and no other testing information exists for the valves in the wellheads²⁸. Without this information I agree with Petrofac that there is uncertainty as to the ability of the barriers within the wellheads and risers to contain a spill of reservoir fluid into the marine environment. Particularly for Tui-2H, which is known to have a rupture in the production riser.

The information before me suggests that an increased risk of a spill from this infrastructure could arise from BWO undertaking Activity 3 at four (4) of the five (5) wells that were producing to the Umuroa²⁹. BWO has not proposed measures that it, or any other party, intend to take to limit the likelihood, duration or scale of such an incident, such as killing the wells, verifying the barriers in accordance with normal industry practice, or proposing measures to address a spill should one be detected. The absence of a worst-case scenario

²⁴ Page 10 of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

²⁵ Page 21 of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

²⁶ Ibid.

²⁷ Email dated 1 April 2020 from BWO to EPA in response to a Further Information Request.

²⁸ Email from Tamarind to EPA date 2 April 2020.

²⁹ Tui 3H has been abandoned with a pressure-tested cement plug. Page 18 Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

or effective measures to mitigate the risk of those scenarios eventuating before the expiry of the PMP38158 prevents me from fully understanding the potential scale and significance of effects that may arise by undertaking Activities 3 and 5. Regardless, I have considered the effects on the environment and existing interests to the extent that I am able.

BWO consider the risk of a spill from the wellheads to pose, at worst, at moderate risk³⁰ which, by their definition of significance, has an impact of more than minor³¹. BWO do not provide any measure that it or any other party, intends to take to avoid, remedy or mitigate this risk post-disconnection of the FPSO. BWO states that these risks are effectively outside of its scope and control³².

To understand the nature of effects that may arise due to reservoir fluids entering the marine environment, I have turned my mind to the hydrocarbon spill modelling carried out for application EEZ100016, as I have done for the risk of spill from the production lines and risers. I note that the circumstances in which a spill would occur are different to that which the Board heard for application EEZ100016, however, I consider its findings provide a useful insight into which aspects of the marine environment may be potentially affected by a spill from a reservoir in the Tui field, and the general intensity of those effects. The Board heard that a wide range of potential effects could be expected (from *low* on benthic communities to *high* on protected species such as seabirds and marine mammals). The Board of Inquiry found a loss of well control could have significant adverse effects on the environment and existing interests³³ and noted the suite of mitigation measures proposed by Tamarind to reduce the likelihood of any spill so that the remaining risks were acceptable.

In the case of this Ruling, the uncertainty raised in relation to the effectiveness of the barriers, and the lack of proposed measures to detect and mitigate the effects of a spill prevent me from being assured the future effects of Activities 3 and 5 are likely to be minor less than minor. I have attempted to address this uncertainty to the extent that I am able. I have turned my mind to the advice for dealing with uncertainty under the EEZ Act provided

³⁰ BWO states the likelihood of this effect occurring as *possible* with a consequence level of *moderate*. BWO FPSO App 2-SSE_Activity Specific ERA_v0_170220.

³¹ Ibid.

³² Page 58 of Part 2 of the IA.

³³ Section 8.11. 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.

to the Decision-making Committee for OMV's application for marine discharge consent (EEZ100017)³⁴.

In summary, the uncertainty of a worst-case reservoir spill scenario prevents me from determining the scale, intensity, and duration of future adverse effects that may arise on the environment on or existing interests should existing barriers fail. Further, the inadequacy of the information provided by BWO on the effectiveness of the existing barriers to contain a spill creates uncertainty for the likelihood of a worst-case scenario arising.

I have attempted to address this uncertainty to the extent that I am able by seeking further information. I have sought the best available information on barrier testing of the wellheads in the Tui Field (recent and historic) from BWO³⁵. In its response dated 1 April 2020, BWO asserted it is not responsible for the field or the subsea infrastructure and the information requested by the EPA was held by Tamarind. I approached Tamarind on 2 April 2020 to confirm if it had available the information required to address the uncertainty in barrier effectiveness. Tamarind confirmed it did not have the required information³⁶. Therefore, I do not consider it to be available information and that a considerable amount of uncertainty remains.

In line with the information principles of s 61 of the EEZ Act, I consider it appropriate to favour caution and environmental protection. Therefore, I consider I am unable to determine the effects on the environment and existing interests are likely to be minor or less than minor for Activities 3 and 5.

Activity 5: Subsea equipment temporary placement on seabed

Section 5.6 of Part 1 of the IA describes the steps proposed to lay down the SSE as:

1. Laydown of each riser by Construction Support Vessel (CSV) in pre-specified pattern,
2. Disconnection of winch and as-lay survey by ROV,
3. Connection of Heading Control Vessel to FPSO to prepare for the disconnection the anchors (authorised under EEZ500028).

³⁴ <https://epa.govt.nz/assets/FileAPI/proposal/EEZ100017/External-advice-and-reports-External-reports/46204a7205/Stantec-Uncertainty-Report-3-07-18-EEZ100017.pdf>

³⁵ Requests to BWO dated 2 March 2020 and 23 March 2020.

³⁶ Email to EPA dated 3 April 2020.

BWO state that both Activity 3 and 5 poses a spill risk to the environment from the SURF system and reservoir. I discuss this in detail under Activity 3 above and adopt those conclusions here.

In addition to the spill risk, there are some effects that arise primarily from Activity 5, such as the physical disturbance of the seafloor, and the removal of physical structures. I discuss these below.

BWO state the lay down of the risers will occupy approximately 186m² of seafloor. BWO do not specify a duration of the placement but rely on other parties to undertake works in relation to the risers prior to the expiry of PMP38158. I have considered the effects of the placement until the expiry of PMP38158; 24 November 2025.

In summary, I agree with BWO that the effects of this activity are likely to be *negligible* on the environment³⁷.

BWO consider the laydown of the risers will primarily³⁸ result in:

1. Disturbance to seafloor and resuspension sediments, and
2. Disturbance and loss of habitat for marine mammals

I agree with BWO that the sensitively of sessile or slow-moving benthic communities is low for those that will be affected by the placement of the risers and resuspension of nearby sediments. The total area affected is very small relative to the distribution of those organisms throughout PMP38158 and the wider South Taranaki Bight. This activity is unlikely to have population level effects on those organisms and recovery could be expected within months.

BWO state the placement of the risers on the seabed will also act to remove artificial habitat for fur seals and may cause some disturbance to transient marine mammals³⁹.

I consider the proportion of fur seal habitat affected is very low and the removal of this haul out area is not likely to have population level impacts. I do not consider adverse effects on transient marine mammals of this part of Activity 5 are likely to occur given their highly mobile nature and the short duration of the activities.

Cumulative effects on the environment

I have turned my mind to the cumulative effects that arise over time or in combination with other effects of BWO's proposed activities. BWO's impact assessment considers both the 'sensitivity' of environmental receptors which takes account rarity, or protected or threatened

³⁷ Section 2.7.2 of Part 2 of the IA.

³⁸ Summarised from pages 66 – 72 of Part 2 of the IA.

³⁹ Section 2.7.2 of Part 2 of the IA.

status of certain receptors, or the value placed on such aspects or receptors in 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 application. This information is taken into account in the impact assessment undertaken by BWO.

The uncertainty of the future effects in Activities 3 and 5 prevents me from gaining a full understanding of what the cumulative effects may be of undertaking all the activities. I am unable to conclude that the adverse cumulative effects are likely to be minor or less than minor on the environment given Activities 3 and 5 may have effects that are more than minor, irrespective of the additive or synergistic effects arising from Activities 1, 2, and 8 or any activities authorised under EEZ500028.

Effects on existing interests

In section 4.1 of Part 1 of its IA BWO has described the entities it considers hold existing interest that may be affected by the application. These include those with navigation rights holders, fishing rights holders, Tamarind Taranaki Limited, Taranaki Iwi and Ngāti Tara, and all iwi with fisheries assets. BWO did not seek views of persons with existing interests that may be affected by the proposed activities⁴⁰. While consultation is not explicitly required under the EEZ Act between the requestor and persons with existing interests I consider the information provided in the Impact Assessment and any further information responses by the requestor is insufficient to determine the effects on some persons with existing interests.

Further, I have not been able to determine which other existing interests may be affected by the activities due to the uncertainty of the potential future environmental effects from Activities 3 and 5. Therefore, I am unable to determine if effects of Activities 3 and 5 on existing interests are likely to be minor or less than minor.

Nonetheless, I have sought further information directly from some persons to inform my assessment to the extent that I am able. In considering the effects of an activity on existing interests under 59(2)(a) I have had regard to the matters listed under s 60 of the EEZ Act, including the “area that the activity would have in common”, and “the degree to which both the activity and the existing interest must be carried out to the exclusion of other activities” and “whether the existing interest can be exercised only in the area to which the application relates.” I consider the effects on existing interest, including Māori existing interests, below.

⁴⁰ 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.

Information sought in relation to existing interests

I sought the views of several parties with existing interests in order to 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. 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 activities⁴¹. 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 considers 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 decided not to provide a substantive response but noted that we had engaged with iwi directly. Ngāti Ruanui, Ngā Ruahine, Taranaki iwi, and Te Āti Awa are all present in the wider geographic area to the PMP38158. 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:

- a. Taranaki iwi,
- b. Ngāti Ruanui,
- c. Ngā Ruahine, and
- d. 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 existing interests held by those iwi. I describe the matters raised by each iwi below. I consider it appropriate to consider effects on these existing interests here under s 59(2)(a).

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

⁴¹ Email from Tamarind to EPA dated 9 March 2020.

- (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 and 9:

I consider the future effects on fishing interests could be significant as a result of fluids in the flowlines and reservoirs entering the marine environment. The hydrocarbons could act to spoil fishing gear, exclude fishers from affected area, and displace commercially caught fish species. The uncertainty of the potential future effects of Activities 3 and 5 prevents me from being able to determine that the effects on commercial fishers, including iwi with fishing interests, are likely to minor or less than minor.

I do not consider the activity of temporarily placing the infrastructure on the seabed (Activity 5) will adversely affect fishing interest due to its occupation of space or the re-suspension of sediments. All subsea in the Tui Field infrastructure (and the use of ROV's in Activity 2) falls within a Protection Area⁴² that excludes fishers from using that area. I consider the activities will have a negligible effect on existing fishing interests.

Existing Activities undertaken by Tamarind in PMP38158

Tamarind provided a response to the EPA's request for information on 9 March 2020⁴³. However, Tamarind's response deferred to 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,

⁴² Submarine Cables and Pipelines Protection (Tui Area Development) Order 2007.

⁴³ Email from Tamarind to EPA dated 9 March 2020.

- 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. However, Tamarind Group also summarise the impacts and potential effects of the proposed activities in its subsidiary's interests.

Tamarind Group's response raised that it supported the safe disconnection of the FPSO and states its long term considerations for the assets including decommissioning and future reconnection. Tamarind Group do not state BWO's proposed activities will have adverse effects on its interests in the Tui Field but notes that, in its view, the activities are not proposed to be undertaken in accordance with industry best practice, specifically the killing of the well and flushing of the flowlines⁴⁴.

Based on this information, I consider that Tamarind's existing interests (in terms of its assets listed above) may be adversely affected by the proposed activities insofar as the activities are not being undertaken in accordance with industry best practice (see s 59(2)(i)).

However, I consider that BWO are undertaking Activities 3 and 5 in a manner that would enable another entity to reconnect to the field or allow the field to be decommissioned. The uncertainty of the potential future effects of Activities 3 and 5 prevents me from being able to determine that the effects on Tamarind's existing interests, are likely to minor or less than minor. I note that Tamarind has authorisations for lawfully established existing activities under the EEZ Act, including:

- a. The installation of equipment at Pateke-4H (EEZ 01 10), 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 s 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

⁴⁴ Letter from Tamarind Group to the EPA dated 9 March 2020.

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 will be iwi with existing interests associated with 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. My assessment on commercial fishers also applies here. The uncertainty in future environmental effects of Activities 3 and 5 prevents me from being able to determine that the effects on iwi with fishing interests are likely to be minor or less than minor.

In response to our requests for further information from Taranaki iwi, Ngā Ruahine, Te Āti Awa, and Ngāti Ruanui, iwi raised matters that relate to their existing interests (that includes the relationship between the iwi and the marine environment and concepts such as kaitiakitanga governed by tikanga Maori) that may be affected by the proposed activities. Information I have considered relating to effects on these interests came from the two respondents to the EPA's request; Taranaki iwi and Ngāti Ruanui.

1. Taranaki Iwi:

Taranaki Iwi's response identified its existing interests to include:

- a. Te huanga o Tangaroa - the environment necessary for the wellbeing of a broad diversity of interconnected marine life, those being marine mammals, fish and the diversity of coastal inshore and deep sea offshore species,
- b. Ngā tai o te moana - coastal and offshore waters marine ecosystems and environmental features,
- c. Te takapou o Tangaroa - seabed,
- d. Ngā taonga tuku iho - traditional Māori values and practices such as the cultural relationships with our customary fishing rights, tauranga ika and mahinga mātaītai, and
- e. The cumulative impact on all of these environmental features including the impact on their mouri.

Taranaki Iwi state it opposes this Ruling and describes the effects of the pollutants or contaminants present in the flowlines on their existing interests (using its Mauri matrix⁴⁵) as Moderate to Major. Taranaki iwi state that this is based on the potential for:

⁴⁵ Referred to in its submission on EEZ100016.

- a. Localised or widespread and/or short term or long term disturbance or temporary or permanent change to the seabed; and
- b. Potential change in water quality over a large area that lasts over the course of several months or one or more generations.

As discussed earlier, these effects that may arise from the pollutants or contaminants present in the flowlines relate to proposed Activities 3 and 5.

Further, Taranaki iwi raise that the presence of structures on the seabed may interfere with its ability to exercise its customary and commercial fishing rights⁴⁶; an effect arising from Activity 5.

Taranaki Iwi refer to its environmental management plan *Taiao Taioia*⁴⁷:

“Our position is clearly articulated in Taioia Taioia, Taranaki Iwi will oppose any activity which degrades the natural balance present in the living ecosystem and environment of Tangaroa-i-te-tai. The likely effects of these rulings on the living ecosystem and environment of Tangaroa-i-te-Tai is likely to be more than minor, we therefore strongly urge the EPA to consider these potential effects and decline the rulings requested by BWO”

I note that some of the substances are no longer in the SURF system (the umbilicals and gaslift lines have been flushed/purged) but the contents in the production flowlines still remain. Petrofac consider it is as likely as not that the substances in the flowlines will enter the marine environment over time⁴⁸. Taranaki Iwi consider these effects could be more than minor on its existing interests.

BWO responded to Taranaki Iwi’s letter stating it considered the environmental risk posed by the rulings to be less than minor⁴⁹. As discussed previously, the uncertainty of a worst-case spill scenario prevents me from determining the scale, intensity, and duration of future adverse effects on the environment or existing interests that may arise should existing barriers fail. Therefore, I am unable to determine that the adverse effects of Activities 3 and 5 on the environment over which Ngāti Ruanui or Taranaki Iwi hold an interest is likely to be minor or less than minor.

⁴⁶ Letter from Taranaki Iwi to EPA dated 9 March 2020 at [12].

⁴⁷ Letter from Taranaki Iwi to EPA dated 9 March 2020 at [21].

⁴⁸ Page 10 of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

⁴⁹ Letter from BWO to EPA dated 11 March 2020.

Taranaki Iwi's concerns as expressed in their letter relate to effects that may arise from a spill from the lines and the placement of structures on the seabed as a result of Activities 3 and 5. Taranaki Iwi have not specified how their interests including their relationship with the marine environment may be affected by the limited nature and highly localised effects of the ROV operations under Activity 2. In these circumstances I do not consider that providing a ruling for Activity 2 would override the existing interests of iwi having regard to the principles of the Treaty including partnership and active protection.

Taranaki Iwi also 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.

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 ruling request EEZ500028 on its coastal and seaward takiwa. Ngāti Ruanui did not specify the extent of its takiwa into the EEZ, or the values it holds in this area, but it does recognise the mana whenua of Taranaki Iwi over the Tui Field.

Ngāti Ruanui raise concern about the lack of information on the potential for a spill risk event that may extend into their takiwa and adversely affect its interests. Ngāti Ruanui do not describe its interests in detail but note its relationship with its awa and connected moana which may be at risk of a spill. The information before me suggests there is a real prospect of material pollution to the environment from a spill from this subsea infrastructure in the Tui Field. I do not consider there is sufficient certainty to determine that the effects of Activities 3 and 5 on the environment in which Ngāti Ruanui hold an interest, or whether the effects on those interests is likely to be minor or less than minor.

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

Tamarind are the only holder of authorisations under s 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 (EEZ300006) will no longer be able to be exercised without an FPSO operating in that field.

In its response to the EPA's further information request⁵⁰, Tamarind did not raise any concerns over how its existing 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 that share a common area with the activities in Tui Field due its distance from the Coastal Marine Area.

(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 application 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 zone⁵¹.

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 Field⁵². 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 stating structures left on the seafloor could cause physical interference with its commercial fishing interests. I note that fishers are already excluded from the area surrounding the pipelines and subsea wellheads by a Protection Area established under the Submarine Cables and Pipelines Protection (Tui Area Development) Order 2007⁵³.

⁵⁰ Email from Tamarind to EPA dated 9 March 2020.

⁵¹ <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)

⁵² Section 4.1.3 of Part 1 of the IA.

⁵³ <http://www.legislation.govt.nz/regulation/public/2007/0201/latest/DLM443031.html>

Taranaki Iwi also stated that the release of pollutants or contaminants from the flowlines during disconnection may be Moderate or Major in its mauri matrix⁵⁴. This is covered under s 59(2)(a). As discussed previously, I consider the uncertainty in the potential release of hydrocarbons either from the flowlines or reservoir from undertaking Activities 3 and 5 prevents me from determining whether the adverse effects on commercial fishers, including fishing interests held by Taranaki Iwi, are likely to be minor or less than minor.

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.

As the extent of a potential spill event from the Tui Field is uncertain should BWO undertake Activities 3 and 5, I cannot assess the degree to which Ngāti Ruanui's rohe, or any interests it may hold in the area, may be affected. Therefore, I cannot determine whether these adverse effects are likely to be minor or less than minor.

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

The effect of the proposed activities on Maori commercial fishing rights under the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 requires consideration separate from my earlier consideration of the effect on commercial fishing interests generally.

No Rohe Moana (defined customary fishing area) 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 interest⁵⁵. The northern most point of this area is approximately 8 kilometres south of the southern-most extent of the Tui Field. In this case, the uncertainty about future environmental effects of a spill event from Activities 3 and 5

⁵⁴ Paras 9 and 15 of Taranaki Iwi's response dated 9 March 2020.

⁵⁵ Gazetted under the Fisheries (Notification of Tāngata Kaitiaki/Tiaki for Area/Rohe Moana of Te Tai Hauāuru) Notice 2019

prevents me from being able to determine that the adverse effects on iwi with these fishing interests are likely to be minor or less than minor.

(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. I note that the following iwi and hapū have processed applications for customary right or customary marine title in Taranaki⁵⁶, the area nearest to the Tui Field:

1. Ngā hapū o Mokau ki Runga,
2. Ngā Hapū o Ngāruahine,
3. Nga Hapu o Poutama,
4. Ngaa Rauru,
5. Ngāti Hāua Hapū, Ngāruahinerangi Iwi,
6. Ngāti Mutunga,
7. Ngāti Ruanui,
8. Ngāti Tama,
9. Ngati Tamaahuroa and Titahi hapu,
10. Puketapu Whanau (Te Atiawa),
11. Taranaki Iwi,
12. Te Atiawa (Taranaki) Iwi,
13. Araukuuku Hapu, and
14. Ngātu Tu.

These iwi or hapū may be most affected by a spill event. Given the uncertainty as to the extent of a potential spill, I cannot assess the whether other applicants or customary right or customary marine title holders would be affected and significance of these effects. Therefore I cannot determine that they are likely to be minor or less than minor for Activities 3 and 5.

Section 59(2)(a)(ii) any effects on the environment or existing interests of allowing the activity including effects

My consideration of the effects on the environment and existing interests is set out above. Given the uncertainty as to the extent of a potential spill, I cannot rule out that there may be effects arising from Activities 3 and 5 that will be felt in New Zealand or beyond the outer

⁵⁶ Te Arawhiti list of applications being processed in the Taranaki region. <https://tearawhiti.govt.nz/te-kahui-takutai-moana-marine-and-coastal-area/applications-made-under-the-marine-and-coastal-area-act/taranaki-region/>

that may occur in New Zealand⁵⁷ or in the waters above or beyond the continental shelf beyond the outer limits of the exclusive economic zone

limits of the EEZ. I cannot assess the significance of these effects and therefore cannot determine that they are likely to be minor or less than minor for Activities 3 and 5.

The other proposed activities are likely to be limited to the immediate vicinity of the FPSO. As such, I consider these effects are likely to be at most minor.

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

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:

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)

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 this activity are present in the Tui Field since the cessation of production activities in November 2020.

The anodes and production infrastructure remains in place near the FPSO. The effects of these placements was considered to be at worst, minor⁵⁸.

Other hydrocarbon activities are present in the South Taranaki Bight. As for other existing interests, the uncertainty in potential future effects that may arise from Activities 3 and 5 prevents me from determining whether these other activities are sufficiently separated from BWO's activities for cumulative effects to occur, and whether those cumulative effects are likely to be minor or less than minor.

⁵⁷ New Zealand is defined in s 29 of the Interpretation Act (1999) as "the islands and territories within the Realm of New Zealand"

⁵⁸ Decision memorandums for EEZ500025 and EEZ0110.

<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 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</p>	<p>As stated previously, I do not consider I have sufficiently certain information to determine if there will be any effects in New Zealand or beyond the outer limits of the EEZ.</p>
<p>Section 59(2)(c) the effects on human health that may arise from effects on the environment</p>	<p>BWO do not describe the effects on human health of undertaking the activities, as these were excluded during its scoping assessment.</p> <p>The Board of Inquiry for application EEZ100016 heard that the release of Tui Crude from Amokura-2H could cause effects on human health by accumulation on beaches (causing a slipping hazard) or via bioaccumulation in commercially fished species. The Board found there was negligible risk to human health of the activities. I consider it appropriate to assume the nature of these effect may be similar as a result of a spill from Activities 3 and 5. However, the high degree of uncertainty of the scale and significance of a spill prevents me from determining whether those potential future effects would be akin to those found by the Board and whether those effects are likely to be minor or less than minor.</p>
<p>Section 59(2)(d) the importance of protecting the biological diversity and integrity of marine species, ecosystems and processes</p>	<p>Activities 2 and part of Activity 5 (physical disturbance to the seabed due to laydown of the risers) may cause adverse effects on the environment, but these impacts are not expected to be more than minor (see 59(2)(a)). This includes effects on biological diversity and integrity of marine species, ecosystems and processes.</p> <p>The information for Activities 3 and 5 in relation to spill risk is not sufficiently certain for me to determine its likely effects on biological diversity, or the integrity of marine species, ecosystems or processes.</p>
<p>Section 59(2)(e) the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species</p>	<p>Section 1.2.1.1 of Part 2 of IA suggests that no sensitive environments are present in the vicinity of the FPSO. That information is consistent with IA analyses contained in other marine consent applications for the South Taranaki Bight. However, the information for Activities 3 and 5 is not sufficiently certain for me to determine whether there are other rare or vulnerable ecosystems beyond the Tui Field that may be affected, and the significance of that effect.</p>

	<p>I note that threatened species are known to frequent the Tui Field and wider South Taranaki Bight are highly mobile transient visitors⁵⁹. The populations of some of these species (such as coastal seabirds and Māui Dolphin) may be highly sensitive to any impacts. As above, the uncertainty in the potential future effects of Activities 3 and 5 prevents me from determining whether any adverse effects on these species is likely to be minor or less than minor.</p>
<p>Section 59(2)(f) the economic benefit to New Zealand of allowing the application.</p>	<p>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 jobs⁶⁰. I agree with BWO's conclusions and consider any economic benefits to New Zealand of providing this ruling would be limited to service providers involved in the disconnection activities.</p>
<p>Section 59(2)(g) the efficient use and development of natural resources.</p>	<p>BWO states it intends to leave the field in a state that allows for reconnection or decommissioning⁶¹.</p> <p>The proposed disconnection and placement of the SURF system 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. Petrofac state that the proposed activities are not consistent with 'normal industry practice' (see s 59(2)(i)). These practices are designed to ensure the safe shut-in of a field for reconnection or decommissioning.</p> <p>In my view, for the proposed activities to amount to the efficient use and development of natural resources, they should be undertaken in accordance with industry best practice.</p>
<p>Section 59(2)(h) the nature and effect of other marine management regimes</p>	<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 4. The Resource Management Act 1991

⁵⁹ Section 1.2.5 and 1.2.6 of Part 2 of the IA.

⁶⁰ Page 59 of Part 1 of the IA.

⁶¹ Section 2.8 of Part 2 of the IA.

These regimes impose standards and requirements that are relevant to the matters to be considered under sections 10 and 59 and 60 of the EEZ Act.

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.

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).

Under the Resource Management Act (ss 61, 66 and 74) local authorities must take into account Iwi planning documents (that are endorsed by Iwi authorities) and the New Zealand Coastal Policy Statement when preparing or altering regional policy statements, regional plans (including regional coastal plans) and district plans.

Taiao Taiora is the Iwi environmental management plan of Taranaki Iwi. I have also taken this plan into account in my discussion on effects on Maori existing interests under s 59(2)(a) above and do not repeat this discussion here.

The NZCPS is a national policy statement under the RMA. The purpose of the NZCPS is to state policies in order to achieve the purpose of the RMA in relation to the coastal environment of New Zealand. The NZCPS sets out environmental bottom lines under Policies 13 and 15. In particular:

- a) the requirement in Policy 13 to avoid adverse effects in areas with outstanding natural character, and to avoid significant adverse effects on natural character in all other areas of the coastal environment; and
- b) the requirement in Policy 15 to avoid adverse effects of activities on outstanding natural features in the coastal environment, and to avoid significant adverse effects of activities on other natural features in the coastal environment.

The proposed activities will take place in the EEZ. The only effects that may arise in the CMA from the proposed activities are those arising from a spill from the reservoir and flowlines due to Activities 3 and 5. As highlighted by the Court of Appeal,⁶² the EPA is required to consider whether BWO's proposal would be inconsistent with any environmental bottom lines established by the NZCPS. I have turned my mind to whether the proposed Activities 2 and 5 would be inconsistent with the bottom lines in Policy 13 and 15 if a spill

⁶² *Trans-Tasman Resources Limited v Taranaki-Whanganui Conservation Board* [2020] NZCA 86

event were to occur. The uncertainty in the scale, duration, and intensity of a spill prevents me from understanding the effects of Activity 3 and 5 on the (outstanding) natural character and (outstanding) natural features of the coastal environment, and therefore, whether Activities 3 and 5 would be consistent with these environmental bottom lines. For completeness, I note my view that Activity 2 would not be inconsistent with the objectives of the NZCPS on the basis that effects from this activity would be highly localised and would not be felt in the CMA.

Section 59(2)(i) best practice in relation to an industry or activity

BWO state in its IA⁶³ 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.

In its report, Petrofac define what it considers to be normal industry practice as the most appropriate proxy for 'best industry practice'. In relation to disconnecting an FSPO from a producing field (either for reconnection or to prepare for decommissioning) Petrofac list the following parts of disconnection activities amount to normal industry practice⁶⁴, these are:

1. Circulate the wells to a fluid which allows hydrostatic pressure in the production tubing to match or exceed the reservoir pressure, i.e. "kill the well". This may also include circulating fluids in a well annulus to remove hydrocarbon or gas inventory.
2. If required install additional subsurface isolation barriers in the form of mechanical plugs and or cement barriers to meet regulatory requirements.
3. Close and verify any installed subsurface valves (SCSSV), via an inflow test.
4. Flush production lines and any gas lift lines to remove hydrocarbon inventory, and any contaminants known to be contained within them. Then fill the lines with suitable inhibited suspension fluid.
5. Similarly circulate any hydraulic or chemical injection lines to a suitable suspension fluid
6. Close wellhead / xmas tree valves, verifying integrity and suitability of each barrier by either pressure testing or performing inflow tests.
7. Ensure any further isolations in subsea infrastructure such as manifolds are undertaken and verified.

⁶³Page 21 of Part 1 of the IA.

⁶⁴ Page 35 of Petrofac report titled FPSO Umuroa Disconnection Subsea Spill Risk Assessment. Issue 1. Dated 22 March 2020.

	<p>8. Terminate all lines to be disconnected from FPSO with a verified pressure tight cap. Either to stop the loss or contamination of suspension fluids, or to provide part of the barrier envelope if hydrocarbons remain present.</p> <p>9. Disconnect FPSO</p> <p>BWO are not proposing to kill the wells, verify or pressure test any barriers, flush the production lines, or verify the end caps. Without these parts of the activity being undertaken, I consider the disconnection works described in Activity 3 are not proposed to be undertaken in accordance with best industry practice.</p> <p>The report and addendum provided by Petrofac make clear that these additional steps act to avoid or mitigate the effects of an unplanned release from the reservoirs. I consider that BWO's proposed approach creates substantial uncertainty as to the likelihood and consequence of any spill from the flowlines or reservoirs. The impacts of this uncertainty on the effects on the environment and existing interests is discussed under s 59(2)(a).</p>
<p>Section 59(2)(j) the extent to which imposing conditions under section 63⁶⁵ might avoid, remedy, or mitigate the adverse effects of the activity</p>	<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 operators⁶⁶. 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.</p> <p>I have considered the ability of the EPA to limit the scope or duration of the proposed activities, and whether in doing so the effects on the environment and existing interests would be minor or less than minor. I do not consider these mechanisms would address the uncertainty raised in this assessment. I note that the EPA cannot impose upon BWO measures that may reduce the uncertainty (for example killing the wells) that are wider than the scope of the ruling request or otherwise do not form part of the description of the activities for which a ruling is sought by BWO.</p>
<p>Section 59(2)(k) relevant regulations (other than EEZ policy statements)</p>	<p>I do not consider any regulations (other than those discussed under s 59(2)(l)) are relevant for consideration for this ruling request.</p>

⁶⁵ Section 63 of the EEZ Act allows the EPA to 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, unless the condition would be inconsistent with the EEZ Act or any regulations made under the EEZ Act, or conflicts with a measure required in relation to the activity by another marine management regime or the Health and Safety at Work Act 2015.

⁶⁶ Guidance for existing petroleum mining operators – Rulings under 162 dated June 2015.

Section 59(2)(l) any other applicable law (other than EEZ policy statements)

Health and Safety

I consider the Health and Safety at Work Act 2015 and regulations are relevant to this ruling request.

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 state⁶⁷ that duties under its regulations are placed on the permit operator (Tamarind).

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

WorkSafe explained⁶⁸ 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.

Tikanga Māori

My assessment takes into account that tikanga Māori defines and governs the interests of tangata whenua in the taonga protected by the Treaty is an integral strand of the common law of New Zealand. The continued existence Maori customary property rights and interests necessarily implies the continued existence and operation of the tikanga Māori which defines their nature and extent. Customary rights interests and kaitiakitanga responsibilities

⁶⁷ Email from WorkSafe to the EPA dated 10 March 2020.

⁶⁸ Ibid.

	are discussed above under s 59(2)(a) having regard to tikanga as relevant applicable law in this context.
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 s 59(2)(m) of the EEZ Act in the context of the specific matters required to be taken into account by s 59(2) of the EEZ Act, and related matters which have a bearing on 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 s 59(2)(m) of the EEZ Act. Having turned my mind all of the information before me, I do not consider there are any other matters that I consider relevant or reasonably necessary to assess the request.

Section 61 information principles	Assessment
Section 61 - Has EPA made full use of its powers to request information, based its decision on the best available information, and taken into account any uncertainty or inadequacy in the information available?	As demonstrated by the analysis contained in this decision, I consider the EPA has made full use of its powers and has based its decision on the best available information and has taken into account any uncertainty or inadequacy in the information available. The uncertainty and inadequacy in the information available for Activities 3 and 5 prevents me from assessing the adverse effects of the activities on the environment or existing interests in respect of this activity. In accordance with s 61(2), I must therefore favour caution and environmental protection in relation to Activities 3 and 5. I consider the information is sufficiently certain and adequate to assess whether the adverse effects on the environment or existing interests for Activities 1, 2, and 8 are likely to be minor or less than minor.

Section 10(1) decision-making criteria	Assessment
Will providing a ruling achieve the s 10(1)(a) purpose: to promote the sustainable management of the natural resources of the exclusive	The lack of information and resulting uncertainty about the effects of Activities 3 and 5 means I am not satisfied that providing a ruling for restricted activities involved in Activities 3 and 5 would achieve the s 10(1)(a) purpose. In particular, the uncertainty of a worst-case reservoir spill scenario prevents me from determining the scale, intensity, and duration of future adverse effects that may arise on the environment on or existing interests should existing barriers fail. Further, the inadequacy of the information provided by BWO on the

<p>economic zone and the continental shelf?</p>	<p>effectiveness of the existing barriers to contain a spill creates uncertainty for the likelihood of a worst-case scenario arising. I cannot see how providing a ruling for Activities 3 and 5 would be consistent with achieving the s 10(1)(a) purpose to promote sustainable management. However, I note that the sufficiently certain, highly localised and limited effects of Activity 2 would, in my view, be consistent with achieving the s 10(1)(a) purpose.</p>
<p>ing a ruling achieve the s purpose: in relation to the economic zone, the continental the waters above the continental and the outer limits of the economic zone, to protect the nt from pollution by regulating or the discharge of harmful s and the dumping or r of waste or other matter.</p>	<p>The lack of information and resulting uncertainty about the effects of Activities 3 and 5 means I am not satisfied that providing a ruling for the restricted activities involved in Activities 3 and 5 would achieve the s 10(1)(b) purpose. In particular, the uncertainty of a worst-case reservoir spill scenario prevents me from determining the scale, intensity, and duration of future adverse effects that may arise on the environment on or existing interests should existing barriers fail. Further, the inadequacy of the information provided by BWO on the effectiveness of the existing barriers to contain a spill creates uncertainty for the likelihood of a worst-case scenario arising. The real prospect of material pollution to the environment from an unplanned discharge means that I cannot see how providing a ruling for Activities 3 and 5 would be consistent with achieving the s 10(1)(b) purpose to protect the environment from pollution. On the basis that Activity 2 presents no spill or pollution risk, I consider it would be consistent with achieving the s 10(1)(b) purpose to protect the environment from pollution to the extent relevant.</p>