

ANNEXURE A - FISHERIES TRACK CHANGES TO CONDITIONS

Dated 7 May 2014

1. Conditions

ACTIVITIES IN ACCORDANCE WITH THE APPLICATION

Reference	Conditions	Comment
01	<p>Subject to compliance with the conditions of this consent, the activities authorised by this consent must be undertaken in accordance with the application and documents submitted as part of the application.</p> <p>Where information contained in the application documents is contrary to the conditions of these consents or where information contained in the application documents is contrary within itself, the conditions will prevail.</p>	<p>This condition is proposed to replace Condition 2 of TTR's conditions of 15 April.</p>

LAPSE

Reference	Conditions	Comment
02	<p>This consent will lapse five years after the date of its commencement unless the consent is given effect to prior to that date.</p> <p>For the purpose of this consent, "given effect to" means:</p> <ul style="list-style-type: none">a) these conditions have been reviewed by the EPA, in accordance with Condition 14Ab) the Consent Holder has confirmed to the EPA that the mining activities have commenced.	<p>This condition is proposed to replace Condition 1 of TTR's conditions of 15 April.</p>
03	<p>No mining activities authorised by this consent may commence until the completion of the review described in Condition 14A.</p>	

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PRE-OPERATIONAL MONITORING

Reference	Conditions	Comment
3A	<p>The Consent Holder shall establish and fund a Technical Peer Review Group (TPRG) to work with the Consent Holder comprising of:</p> <ul style="list-style-type: none"> a) one <u>representative appointed by Iwi</u>; b) one specialist in the field of marine ecology appointed in consultation with the Department of Conservation; d) one specialist in the field of marine plume modelling appointed in consultation with Taranaki Regional Council; e) one specialist in commercial fishing appointed in consultation with the commercial seafood industry; 	
04	<p>Prior to the commencement of any activities authorised by this marine consent, baseline monitoring comprising a minimum of two years monitoring and evaluation must be undertaken by the Consent Holder in consultation with the EPA and Department of Conservation <u>TPRG</u>.</p>	<p>This condition is proposed to replace Condition 79 of TTR's proposed conditions of 15 April.</p>
05	<p>Baseline monitoring must be undertaken in the South Taranaki Bight including the area <u>likely to be subject to plume effects shown in Plan A</u>. The objectives of the baseline monitoring are:</p> <ul style="list-style-type: none"> a) to establish the range of background variability in the key environmental components (listed below) b) to inform the setting of quantitative limits on effects of the mining activities authorised by this marine consent that give effect to the qualitative limits described in Condition [DMC to insert]. <p>The key environmental components to be subject to baseline monitoring are <u>actual and ambient</u> :</p>	<p>This condition is proposed to replace Conditions 76, 77 and 83 of TTR's proposed conditions of 15 April.</p> <p>As described in the report, the DMC will need to set appropriate environmental performance objectives should consent be granted, and the reference to that condition should be inserted here.</p>

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Reference	Conditions	Comment
	<ul style="list-style-type: none">a) benthic habitat and benthic organismsb) water qualityc) underwater noised) marine mammalse) meteorological conditions (waves, wind)f) fish biology, movement and behaviour <u>(including shellfish)</u>g) commercial fishing including aquacultureh) recreational fishingi) recreational divingj) coastal processes and shoreline morphological changesk) sedimentationl) seabed sediment dynamicsm) seabed bathymetryn) air qualityo) visual effectsp) seabirdsq) primary productivityr) redox levels of pre-mined sediments.	

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Reference	Conditions	Comment
	s) <u>biosecurity</u>	
06	<p><u>In consultation with the TPRG the</u> Consent Holder must prepare a Baseline Environmental Monitoring Plan (BEMP) to describe the baseline monitoring in accordance with the objectives set out in Condition 5, including the following, as a minimum:</p> <ul style="list-style-type: none"> a) The sampling methodology, including parameters and techniques for each environmental component listed in Condition 5. b) Monitoring locations that will provide a statistically robust representation of <u>both</u> the mining <u>and plume</u> area. c) Frequency and replicates of samples. <p>The BEMP must be submitted to the EPA two months prior to the start of the baseline environmental monitoring for approval by the EPA that it satisfies the objectives set out in Condition 5.</p>	This condition is proposed to replace Condition 76 in TTR's set of conditions of 15 April.
07	<p>Within three months of the completion of the baseline environmental monitoring, the Consent Holder must provide a report to the EPA setting out the results of all monitoring undertaken under the BEMP including the results of the Marine Mammal Baseline Survey, <u>the</u> Benthic Baseline Survey, <u>the</u> <u>Commercial Fishing Baseline Survey and each of the other key components of Condition 5.</u></p>	

Marine mammal baseline monitoring

Reference	Conditions	Comment
08	In giving effect to Conditions 4 and 5 regarding marine mammals, the Consent Holder must undertake a baseline survey for cetaceans (whales and dolphins) (the Marine Mammal Baseline Survey). This	This condition is proposed to replace Conditions 79(b), 91 and 94 in TTR's proposed conditions of

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Reference	Conditions	Comment
	<p>survey must:</p> <ul style="list-style-type: none"> a) be designed and undertaken by independent, qualified and experienced marine mammal scientists agreed with the EPA in consultation with the Department of Conservation b) follow scientific best-practice methodologies (which may include Passive Acoustic Monitoring), as agreed with the EPA and the Department of Conservation c) monitor and assess cetacean distribution, density and abundance within: <ul style="list-style-type: none"> i) the project area ii) the South Taranaki Bight d) inform the development, ongoing implementation and review of the Marine Mammal Monitoring and Management Plan (as part of the Environmental Monitoring and Management Plan). 	<p>15 April.</p> <p>This condition, in part, adopts the Director-General of Conservation's proposed Condition 90 dated 13 April 2014.</p>
09	This cell is intentionally blank.	
10	The Marine Mammal Baseline Survey must occur concurrently with baseline monitoring for seabirds.	This condition adopts the Director-General of Conservation's proposed Condition 92 dated 13 April 2014.
11	This cell is intentionally blank.	

Baseline monitoring of benthic habitats and organisms

Reference	Conditions	Comment
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Reference	Conditions	Comment
12	<p>In giving effect to Conditions 4 and 5, the Consent Holder must undertake baseline surveys for benthic habitats and organisms (Benthic Baseline Survey). This survey must:</p> <ul style="list-style-type: none"> a) be undertaken in accordance with the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013 b) capture seasonal variability relative to recruitment c) comprise of a minimum of two survey sampling periods annually (per calendar year) being summer and winter or autumn and spring over a minimum of two years (24 months) d) be sited along the ‘gradient of effect’ of the suspended sediment plume relative to the spatial extent of the plume, along the plume from the boundary of the consented mining area for the extent of the plume including the Graham Banks and across the plume from the offshore biogenic zone to the inshore reef areas listed in f) e) include at least one site representative of each community type including worm fields, rippled sands, inshore reefs and offshore biogenic habitat f) include samples from <u>all areas potentially affected by the plume and specifically</u> the North and South Traps, Graham Bank, Four Mile Reef, Patea Reefs and Waiinu Reef. g) include measurements of chlorophyll-a from the sediments to enable discrimination between benthic-generated microalgae and old/degraded phytoplankton to determine the relative importance of benthic versus pelagic primary production in the ecosystem. 	<p>This condition adopts the Director-General of Conservation’s proposed Condition 104(j) dated 13 April 2014 in part.</p>
13	<p>Monitoring within the mining area must include but not be limited to:</p> <ul style="list-style-type: none"> a) sampling of the two habitat types – rippled sands in depths up to 30 m and wormfields in 	<p>This condition adopts the Director-General of Conservation’s proposed Condition 104(j) dated 13 April 2014 in part.</p>

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Reference	Conditions	Comment
	<p>depths greater than 30 m</p> <p>b) sampling of sediment cores to examine infauna greater than 500 micrometres.</p>	

Baseline monitoring of commercial fishing

Reference	Conditions	Comment
<u>13A</u>	<p><u>In giving effect to Conditions 4 and 5 regarding commercial fishing the Consent Holder must undertake a baseline survey of quota species (the Commercial Fishing Baseline Survey). This survey must:</u></p> <ul style="list-style-type: none"> a) <u>be designed and undertaken by independent qualified and experienced fisheries scientists agreed with the EPA in consultation with Fisheries Inshore New Zealand</u> b) <u>determine, monitor and assess the distribution of quota species in the area potentially affected by the sediment plume</u> c) <u>agree on the targeted research needed to clarify any residual areas of uncertainty</u> d) <u>agree how commercial fishing will be monitored</u> e) <u>agree on regular sampling of fish caught in and around the mined area and sediment plume to identify any changes in fish quality</u> 	
<u>13B</u>	<p><u>In giving effect to Conditions 4 and 5 regarding aquaculture, the Consent Holder must undertake a baseline survey of water quality and water column primary productivity in aquaculture farming areas of the outer Marlborough Sounds. Such a survey to be designed and undertaken by an independent expert in the area of aquaculture and environmental interactions.</u></p>	

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Reference	Conditions	Comment
14	<p>Following the monitoring and evaluation period referred to in Condition 4, the Consent Holder must <u>consult with the TPRG before it prepares</u> and <u>submits</u> to the EPA a proposed Environmental Monitoring and Management Plan (EMMP) that includes but is not limited to the following:</p> <ul style="list-style-type: none"> a) Environmental performance criteria for each of the environmental components listed in Condition 5 of this marine consent informed by baseline monitoring results for those criteria. b) Ongoing operational monitoring schedules including but not limited to the location duration, frequency, timing and reporting of monitoring proposed for each environmental component listed in Condition 5. c) Details of trigger values for each environmental component that will result in actions to reduce environmental effects and details of those actions, their duration, location and timing and proposed monitoring of the results of such actions. d) The methodology to be used for gathering data generated during monitoring for each environmental component, including but not limited to details on data format and technologies proposed for use (e.g. telemetry). e) Proposals to enable provision of data from monitoring to the public including details on how the Consent Holder will manage the reliability, accuracy and veracity of information drawn from data should it be used for independent public analysis and reporting. f) Management plans as listed in Condition 86. 	<p>In the event that the DMC wishes to impose conditions that require the EPA to approve the EMMP rather than conduct a review of the proposed EMMP, Condition 14A would have to be omitted and Condition 14 would need to be amended to remove the word 'proposed' in reference to the EMMP.</p>

REVIEW

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Reference	Conditions	Comment
14A	<p>On receipt of the proposed EMMP, the EPA must review the conditions of this consent pursuant to section 76(1)(a)(ii) of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2013 to:</p> <ul style="list-style-type: none"> a) incorporate a final EMMP (including each of the management plans listed in Condition 86) within these conditions, based on an assessment of the adequacy and appropriateness of each of the proposed EMMP provisions to deal with the effects of the exercise of the consent b) assess whether all other conditions of this consent remain appropriate to deal with the effects of the exercise of the consent in light of the proposed and final EMMP provisions. 	<p>In the event that the DMC wishes to impose conditions that require the EPA to approve the EMMP rather than conduct a review of the proposed EMMP, Condition 14A would have to be omitted and Condition 14 would need to be amended to remove the word 'proposed' in reference to the EMMP.</p>

OPERATIONAL MONITORING

Reference	Conditions	Comment
15	<p>All operational environmental monitoring provided for in the final EMMP must be undertaken for the duration of the mining activity and, with the exception of Condition 22a, at least 12 months <u>5 years</u> following the cessation of the mining activity.</p> <p>The EMMP must include but not be limited to monitoring of:</p> <ul style="list-style-type: none"> a) benthic habitat and benthic organisms b) water quality including optical effects, dissolved oxygen, turbidity and concentrations of trace metal concentrations in both the wastewater stream on board the FPSO and in the plume c) underwater noise 	

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Reference	Conditions	Comment
	<ul style="list-style-type: none"> d) marine mammals e) meteorological conditions (waves, wind) f) fish biology, movement and behaviour <u>(including shellfish)</u> g) commercial fishing including aquaculture <u>(including those parameters and sites investigated to meet consent conditions 13A and 13B)</u> h) recreational fishing i) recreational diving j) coastal processes and shoreline morphological changes k) sedimentation (in particular, sediment deposition thickness in the extraction areas and outside the application area) l) seabed sediment dynamics m) seabed bathymetry (in particular, the height of pits and depth of mounds) n) air quality o) visual effects p) seabirds q) primary productivity <u>of STB waters (including those at the entrance to Marlborough Sounds)</u> r) suspended sediment concentrations at offshore biogenic habitats including the North and South Traps and Graham Bank 	

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Reference	Conditions	Comment
	<ul style="list-style-type: none"> s) salinity of hydrocyclone water t) redox levels of post-mined sediments. u) <u>biosecurity</u> 	
16	<p>Reports on the findings of the environmental monitoring under the EMMP must be submitted to the EPA in accordance with the reporting protocol set out in the EMMP and as required by Condition 14 of this consent.</p> <p>In addition, a summary of all monitoring results for each year of this consent after it is given effect to must be provided to the EPA annually by 30 June for the term of this marine consent.</p>	

Marine mammal monitoring

Reference	Conditions	Comment
17	<p>In giving effect to Condition 15 regarding marine mammals, the Consent Holder must undertake operational monitoring surveys for cetaceans (whales and dolphins) (Marine Mammal Operational Monitoring Surveys). These surveys must:</p> <ul style="list-style-type: none"> a) be designed and undertaken by independent, qualified and experienced marine mammal scientists agreed with the EPA b) follow scientific best-practice methodologies, as agreed with the EPA and in consultation with the Department of Conservation c) monitor and assess cetacean distribution, density and abundance within: 	

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Reference	Conditions	Comment
	<ul style="list-style-type: none"> i) the project area ii) the South Taranaki Bight d) inform the development, ongoing implementation and review of the Marine Mammal Monitoring and Management Plan (as part of the Environmental Monitoring and Management Plan). e) <u>Monitor and assess the effects of noise on cetacean distribution and density.</u> <p>Reporting must be undertaken as part of the Marine Mammal Monitoring and Management Plan described in Condition 101.</p>	
18	This cell is intentionally blank.	
19	The Marine Mammal Operational Monitoring Surveys must occur concurrently with operational monitoring for seabirds.	
20	<p>The Consent Holder must, every six months until 30 July 2019, provide to the EPA a report setting out the results of the Marine Mammal Operational Monitoring Surveys on:</p> <ul style="list-style-type: none"> a) 31 January for the surveys completed in the period June–December b) 30 July for the surveys completed in the period January–May. <p>Thereafter, the Consent Holder must provide a report setting out the results every five years, beginning on 30 July 2024.</p>	
21	The Consent Holder must undertake Passive Acoustic Monitoring (PAM) using a stationary acoustic monitoring array to monitor cetacean presence and distribution within the South Taranaki Bight relative to the area in Plan A. The PAM array shall be designed and undertaken by independent, qualified and	This condition adopts the Director-General of Conservation's proposed Condition 93 dated 13 April 2014 in part.

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Reference	Conditions	Comment
	experienced marine mammal scientists (agreed with the EPA) and follow scientific best-practice methodologies.	

Benthic habitat and organisms

Reference	Conditions	Comment
22	<p>In giving effect to Condition 15, the Consent Holder must undertake baseline surveys for benthic habitats and organisms (Benthic Operational Monitoring Surveys). Monitoring must include but not be limited to:</p> <ul style="list-style-type: none"> a) suspended sediment levels at the North and South Traps, Graham Bank, Four Mile Reef, Patea Reefs and Waiinu Reef. <p>Monitoring sites must be in the same locations as those used for baseline monitoring, and the monitoring must be undertaken at the same time of year as baseline monitoring.</p>	This condition adopts the Director-General of Conservation's proposed Condition 104(j) dated 13 April 2014 in part.
22a	<p>The Consent Holder must continue to monitor benthic habitats and organisms as specified in the EMMP (once mining in the area in Plan B has been completed) every two years for 10 years. Monitoring must include but not be limited to:</p> <ul style="list-style-type: none"> a) sediment grain size in the pits and mounds b) ecological recolonisation rates. 	
23	This cell is intentionally blank.	

Commercial fishing

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Reference	Conditions	Comment
23A	<p><u>In giving effect to Condition 15, the Consent Holder must undertake operational surveys for commercial fishing (Commercial Fishing Operational Monitoring Surveys). Monitoring must include but not be limited to:</u></p> <ol style="list-style-type: none"> 1. <u>Effect of changes in fish distribution and spatial displacement of commercial fishing vessels and their fishing activity (including trawl, long line, set net, purse seine and potting fisheries) as shown by changes to catch profiles / catching plans.</u> 2. <u>Determining, monitoring and assessing the distribution of surfclams and other sedentary commercial species.</u> 3. <u>Effect on commercial fishing via the creation of pits and mounds and vessel no-go areas and other restrictions.</u> 4. <u>The effects of noise and light on fish species.</u> 	

OPERATIONS AND MAINTENANCE

Reference	Conditions	Comment
24	<p>The Consent Holder must make a hard copy of these conditions (including all management plans and other documentation required in these conditions) available for the EPA to inspect at any time:</p> <ol style="list-style-type: none"> a) at the Consent Holder's head office b) on board all vessels undertaking activities provided for by this marine consent. 	<p>All consent documentation should be accessible to all staff for training purposes.</p> <p>This condition also serves to clarify the information that EPA staff may require during inspections under section 141 of the Act.</p>
25	<p>The Consent Holder must ensure that all personnel on board project vessels receive the training required below prior to taking part in any employment duties related to giving effect to this consent.</p>	<p>To ensure all personnel are adequately trained in the obligations under the consent to ensure that</p>

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Reference	Conditions	Comment
	<p>Training must be to a standard that ensures compliance with consent conditions when giving effect to this consent, including training on but not limited to:</p> <ul style="list-style-type: none"> a) the Consent Holder's obligations under the marine consent, conditions and associated management plans b) their responsibilities under any condition or management plan and how to meet those responsibilities c) their obligations under the Marine Mammals Protection Act 1978 and Marine Mammals Protection Regulations 1992. <p>A record of all training carried out in accordance with this condition must be maintained and made available to the EPA on request.</p>	<p>environmental harm is minimised. Condition proposed by the Director-General of Conservation (Condition 49 in Appendix C) and adopted by TTR (Condition 93 in Appendix B) related to (c) Marine Mammals Protection Act and Marine Mammals Protection Regulations.</p> <p>Subject to minor wording change by EPA staff.</p>
26	<p>The Consent Holder must ensure that, in respect of all project vessels, a valid International Oil Pollution Prevention (IOPP) certificate is held.</p> <p>The IOPP certificate must be:</p> <ul style="list-style-type: none"> a) in place prior to the vessel operating under this consent b) provided to the EPA within 10 working days of receipt by the Consent Holder c) kept on board all vessels used to give effect to this consent at all times. 	<p>Minimise the risk of unplanned events that will cause environmental harm.</p>
27	<p>Whilst giving effect to this marine consent, the Consent Holder must maintain a permanent register of any complaints received by any person or company alleging adverse effects from, or related to this marine consent.</p> <p>The register shall include:</p>	<p>To ensure the EPA is aware of any potential adverse effects on the environment.</p>

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Reference	Conditions	Comment
	<ul style="list-style-type: none"> a) the name and address of the complainant b) the nature of the complaint c) the location, date and time of the complaint and of the alleged event d) weather conditions at the time of the complaint, including wind direction and approximate wind speed, the real-time New Zealand MetService forecast for the mining area and any forecast warning for the area and the presence of precipitation, fog or any other weather related impact on visibility e) the outcome of any investigation into the complaint f) any measures taken to respond to the complaint. <p>This information should be provided in writing to the EPA within 24 hours of receiving the complaint and shall be held in a log on both the FPSO and at the TTR head office for inspection by the EPA on request.</p>	

Long-term anchoring or mooring of the Floating Processing, Storage and Offloading (FPSO) vessel

Reference	Conditions	Comment
27	<p>Subject to Conditions 28 and 29, anchoring or mooring of a single FPSO under this marine consent must be restricted to the area shown in Plan A attached to and forming part of this marine consent. Anchoring or mooring of the FPSO on or under the seabed outside of this area is not authorised by this marine consent:</p> <p style="padding-left: 40px;">Latitude -39.8512; Longitude 174.0412</p>	<p>This condition is to ensure that effects on benthos from long-term anchoring or mooring of the FPSO are contained within the area described and applied for in the marine consent application.</p>

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Reference	Conditions	Comment
	<p>Latitude -39.8872; Longitude 174.0359</p> <p>Latitude -39.8646; Longitude 174.0550</p> <p>Latitude -39.9045; Longitude 174.0759</p> <p>Latitude -39.8595; Longitude 174.1111</p> <p>Latitude -39.9081; Longitude 174.1225</p> <p>Latitude -39.8276; Longitude 174.1807</p> <p>Latitude -39.8558; Longitude 174.2176</p>	
28	The Consent Holder must ensure that no anchors are placed on the seabed or seabed material removed within 1.24 km in any direction from the outer edge of the Kupe platform during the exercise of this marine consent.	<p>To reduce the effect on maintenance operations of the Kupe platform from a reduction in water clarity due to sediment plumes.</p> <p>Condition 137(d) proposed by Origin Energy with some alterations to wording by EPA staff.</p>
29	The Consent Holder must ensure that no anchors are placed on the seabed or seabed material removed within 500 m in any direction from any wellheads shown on Plan C during the exercise of this marine consent.	<p>To avoid derogation of the Kupe permit.</p> <p>Condition 137(e) proposed by Origin Energy with some alterations to wording by EPA staff.</p>
30	The Consent Holder must ensure that up to a maximum of four anchors are placed on or under the seabed when anchoring a FPSO in the area shown on Plan A attached to and forming part of this marine consent.	This condition is to ensure that disturbance to benthos from the placement of anchors on the seabed is contained within the area described and applied for in the marine consent application.

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Reference	Conditions	Comment
31	The Consent Holder must not anchor more than one FPSO consecutively in the area shown on Plan A attached to and forming part of this marine consent.	This condition is to ensure that disturbance to benthos from the placement of anchors on the seabed is contained within the area described and applied for in the marine consent application.
32	The Consent Holder must ensure that no whale entanglement occurs in any equipment used to undertake activities authorised by this marine consent.	Condition 56 in 13 April conditions proposed by the Director-General of Conservation. The EPA staff have adopted this condition in part and amended the wording to ensure that there is no effect on marine mammals from entanglement.
33	The Consent Holder must ensure that there are no floating ropes or lines on the sea surface at any time associated with any vessel involved in giving effect to this marine consent.	Condition 56 in 13 April conditions proposed by the Director-General of Conservation. The EPA staff adopt this condition with some minor alterations.
34	This marine consent requires the FPSO to be attached to the seabed, subject to Conditions 27–30, at all times when the SSED is operating on the seabed.	To reduce risk of collision with Kupe as stated in the application
35	All mooring, thruster assistance and anchoring system design must be performed on the basis of a permanent mooring system of high consequence class in accordance with industry-recognised standards for floating offshore structures and mobile offshore units	Condition 9(j) proposed by Origin Energy with some alterations to wording by EPA staff to ensure that equipment is to a best-practice standard, thereby reducing the risk of loss of moorings potentially resulting in a collision.

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Placement of a Subsea Extraction Device (SSED) on the seabed

Reference	Conditions	Comment
36	<p>This Consent Holder may place one SSED on the seabed in the area in Plan A when giving effect to this consent.</p> <p>The Consent Holder must:</p> <ul style="list-style-type: none"> a) record GPS positions of the SSED when placed on the seabed and be able to identify the start and end of each mining lane in those recordings when and after excavation occurs b) provide those records as part of the Mine Report under Condition 85. 	<p>This condition is to ensure that disturbance to benthos from the placement of the SSED on the seabed is contained within the area described and applied for in the marine consent application.</p>

Removal of material from the seabed

Reference	Conditions	Comment
37	<p>The Consent Holder may remove up to a maximum of:</p> <ul style="list-style-type: none"> a) 8000 tonnes of seabed material per hour, 24 hours a day, seven days a week b) 50 million tonnes of seabed material during any 12-month period for the term of this marine consent <p>from the defined lanes shown in Plan B.</p> <p>The Consent Holder must continuously record the volume of seabed material removed and report on this as part of the monthly mining report under Condition 85.</p>	<p>This condition is to ensure that the effects on benthos from the removal of seabed material that results in discharge and deposition of sediment are no greater than what was described and applied for in the marine consent application.</p>
38	<p>The Consent Holder must not excavate a mud layer of 1 metre or more in thickness.</p>	<p>This is to ensure that the amount of fine sediment</p>

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		<p>entering the plume is not greater than what has been modelled.</p> <p>This condition replaces TTR's Conditions 105 and 106.</p>
39	<p>Prior to removing seabed material from any part of the area shown in Plan B, the Consent Holder must complete a pre-mining assessment report (see Condition 84) of the area it proposes to extract from.</p> <p>The pre-mining assessment report must be provided to the EPA for approval at least three months prior to removal of the seabed with the SSED in the previously unmined area.</p>	<p>This condition would ensure that the Consent Holder does the necessary investigation to ensure that mud layers are not encountered during mining. This may result in a sediment plume different to that predicted and increased effects on benthos outside of the application area.</p>
40	<p>The Consent Holder must undertake grade control drilling in the areas where removal of seabed material is planned.</p> <p>The Consent Holder must:</p> <ul style="list-style-type: none"> a) avoid, mitigate or remedy adverse effects of the grade control drilling on any sensitive environments b) not sell any non-living natural material removed from the seabed or subsoil during or for the purpose of undertaking the grade control drilling c) notify the EPA 24 hours prior to the date on which the grade control drilling commences on each occasion that grade control drilling is undertaken d) notify the EPA within 24 hours of the date on which the grade control drilling is completed. <p>The Consent Holder may only remove material from the seabed or subsoil that is reasonably</p>	<p>This condition replaces TTR's proposed Conditions 105 and 106.</p> <p>The condition applies all requirements of regulation 5 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013 except those relating to initial environmental assessment, sensitive environments assessment and logbook requirements.</p>

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	<p>necessary to undertake the grade control drilling.</p> <p>The results of grade control drilling must be provided to the EPA as part of the pre-mining assessment report in Condition 39.</p>	
41	<p>The Consent Holder must not use water jets when removing seabed material with an SSED.</p>	<p>The Consent Holder has stated that these will not be used as they may create an additional sediment plume, which has not been considered in the marine consent application.</p>
42	<p>The Consent Holder must ensure pits remaining at the end of mining lanes, as described in the application documents, are <u>reduced as far as practicable to pre-mined seabed profiles and are</u> no deeper than <u>a maximum of 3 m</u> 10m and 5m on average below the pre-mined seabed level. The average depth and GPS position of any unfilled pits remaining after completion of a mining lane must be recorded and reported in the monthly mining report under Condition 85.</p>	<p>To minimise the effects on waves from changes to bathymetry.</p>
43	<p>On the discovery of any of the following or other material not naturally found in the mining area the Consent Holder, must immediately stop mining activities authorised by this marine consent.</p> <ul style="list-style-type: none"> a) Steel. b) Brass. c) Other metals in solid state. d) Manufactured or worked timbers. <p>The Consent Holder must notify the EPA of the find and consult with Heritage New Zealand and iwi representatives on confirming the origin of the find. Mining must not restart until the EPA is satisfied that the discovery does not qualify as a pre-1900 shipwreck as described under the Historic Places Act</p>	

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Reference	Conditions	Comment
	1993.	

Deposition of material on the seabed

Reference	Conditions	Comment
44	Pits created by the removal of seabed material must be backfilled as described in the application. The deposition of coarse tailings on the seabed in the area shown in Plan B attached to and forming part of this marine consent must be continuously recorded and monitored including but not limited to monitoring and recording PSD. The information collected during recording and monitoring must be reported on as part of the monthly mining report under Condition 85.	This condition is to ensure that the methodology described in the application documents is employed and to aid the rate of recovery of the seabed as stated in the application.
45	The Consent Holder must ensure that coarse tailings are discharged no more than 4 metres above the in situ seabed level. The Consent Holder must continuously record the depth at which tailings are released and report on this in the monthly mining report under Condition 85.	This condition is to ensure that the tailings behave in the way predicted by Dr Hadfield's model and fall to the seafloor close to where they are discharged.
46	The Consent Holder must ensure mounds as described in the application documents are <u>reduced as far as practicable to pre-mined seabed profiles and are</u> no higher than 9 m <u>than a maximum of 3 m</u> above the pre-mined seabed level and occur only at the start of a mining lane . The height, diameter and GPS position of any mounds created during the deposition of seabed material must be recorded and reported in the monthly mining report under Condition 85.	

Discharges into the water column

Reference	Conditions	Comment
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Reference	Conditions	Comment
47	<p>The Consent Holder must not discharge water from the hydrocyclone machinery at a height greater than 6 metres above the in situ seabed level.</p> <p>The Consent Holder must, whilst discharging from the FPSO, continuously record the depth at which water with elevated suspended sediment concentrations is released and report on the maximum and minimum values in the monthly mining report under Condition 85.</p>	<p>This condition is to ensure that the suspended sediment behaves in the way predicted by Dr Hadfield's model for the sediment plume and limits the effect on benthos outside of the application area to what will be assumed to occur.</p>
48	<p>The Consent Holder must ensure that all dissolved metal concentrations in the hydrocyclone discharge from the FPSO comply with the ANZECC and ARMCANZ water quality guidelines for the protection of 99% of species prior to discharge into the water column.</p>	<p>Condition 111 proposed by TTR but amended by EPA staff to provide a higher degree of certainty for managing adverse effects. This condition is to ensure that best practice is employed to protect benthos from high levels of trace metals. To address the uncertainty surrounding the effect on fish and benthos surrounding the FPSO of elevated levels of trace metals, the EPA staff propose that the discharges meet the relevant water quality guidelines prior to discharge.</p>
49	<p>The Consent Holder must not dispose of chemicals or harmful substances at sea. All hazardous and oily waste must be stored on board for transport in suitable containers or packaging to an approved shoreside reception facility.</p>	<p>Recommendation from navigational safety conference.</p>
50	<p>The hydrocyclone discharge from the FPSO must not have a concentration above 37 parts per thousand (ppt) at the point of discharge. The Consent Holder must measure and record the salinity of the discharge of the hydrocyclone from the FPSO at the point of discharge continuously while material is being discharged from the FPSO into the sea. The Consent Holder must provide the salinity</p>	<p>This condition is to ensure that discharges are at a brine concentration that is not considered to form a halocline or cause harmful effects to benthos and fish that may be in the vicinity of the discharges.</p>

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Reference	Conditions	Comment
	recordings in the monthly mining report and a summary of the results of those recordings and their compliance with this condition.	
51	Discharges of sediment from the FPSO to the sea must not exceed a total combined mass flux of solids of 7192 tonnes/hour, with a maximum fines content (all seabed material finer than 90 microns) not exceeding 374 tonnes/hour and with a maximum ultra-fines content (all seabed material finer than 8 microns) not exceeding 54.5 tonnes/hour. Monitoring for compliance with these parameters must occur continuously at the point of discharge.	To replace TTR Condition 3(d) with Director-General of Conservation Condition 3(d – alternative wording).
52	Median values cited in Condition 51 must be expressed on a three-month running average basis, derived from analysis of one representative daily composite sample made up from eight sub-samples at three-hour intervals.	TTR Condition 5(c) as proposed at the hearing on 15 April.
53	The Consent Holder must monitor mass fluxes based on samples collected under Condition 52 to record: <ul style="list-style-type: none"> a) the total run of mine material extracted b) the total mass of sediment discharged via the hydrocyclone underflow c) the total mass of sediment discharged via the hydrocyclone overflow. 	To replace Condition 86 from TTR and Condition 60 from the Director-General of Conservation.
54	The Consent Holder must avoid the loss or spillage of sediment (i.e. sediment that is agitated or disturbed and is not subsequently extracted via the suction pipe) when operating the SSED. The Consent Holder must ensure that sensors are present and operational on the extraction equipment to allow the operator to monitor compliance with Condition 54 in real time and in an ongoing continuous manner.	Condition 88 from TTR and Condition 62 from the Director-General of Conservation with minor amendments.

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Reference	Conditions	Comment
55	The results of continuous monitoring must be provided to the EPA in the monthly mining report with analysis of compliance with Condition 85.	Condition 88 from TTR and Condition 62 from the Director-General of Conservation with minor amendments.

Generation of noise from vessels and Subsea Extraction Device (SSED)

Reference	Conditions	Comment
56	<p>The Consent Holder must ensure the following:</p> <ul style="list-style-type: none"> a) The combined noise from the FPSO and SSED operating under representative full production conditions must be measured 10 m below the sea surface at points 300 m, 500 m, 750 m and 1000 m from the port and starboard side of the FPSO. b) The overall combined noise level at 500m shall does not exceed 130 dB re 1µPa RMS linear in any of the following frequency ranges: low frequency 10–100 Hz, mid-frequency 100–10,000 Hz and high frequency >10,000 Hz. c) The overall combined noise level at 500 m across all frequencies shall must not exceed a sound pressure level of 135 dB re 1µPa RMS linear. d) Measurements are undertaken in circumstances where there is Beaufort sea state of less than 3 (calm sea conditions with beginning of white-capping), with no precipitation and no external noise sources (e.g. passing ships). e) The monitoring equipment shall must be calibrated before and after measurements. f) The Consent Holder must monitor the combined noise shall be monitored: 	<p>This condition is to ensure that noise generated by the operations are at a level that will not cause death or hearing loss to marine mammals in the vicinity of the application area.</p> <p>These conditions have been proposed by the experts involved in the noise and marine mammals conferencing and are agreed as being appropriate by all but one participant – Associate Professor Elizabeth Slooten. Where the EPA staff consider that a condition needs to be amended, revised wording has been inserted in bold type.</p> <p>Monitoring of noise immediately following a change is preferred by the EPA rather than the proposal by the experts, which could mean a noise exceedance occurs for a month prior to monitoring and discovery.</p>

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Reference	Conditions	Comment
	<p>i) within one month of commencement of operations using the FPSO and SSED to remove seabed material mining operations, and if less than 80% full production conditions of 8,000 t/hr, a further measurement will be made within one month of mining operations reaching 90% full production conditions of 8,000 t/hr</p> <p>ii) an additional two times in the first 12 months of the commencement of 90% full production conditions of 8000 t/hr – each measurement must being separated by a period of at least six months</p> <p>iii) annually <u>biennially</u> for the following four years <u>the duration of the consent</u> following the first year of mining operations</p> <p>iv) every five years thereafter</p> <p>v) at any time reasonably requested by the EPA.</p> <p>g) The operating specifications for the SSED must be provided to the EPA at least one month prior to commencing operations with the SSED.</p> <p>h) If the Consent Holder alters Should the operation of the FPSO and SSED be altered in any way outside of the original operating specifications which may change the magnitude or character of the underwater noise production, the EPA must be notified 24 hours prior to the alteration and the noise must shall be monitored for the first 48 hours of operation after the alteration within one month of the change to demonstrate compliance with Condition 56(a) has been maintained.</p> <p>In the event weather or sea conditions prevent monitoring within the specified time frame, the monitoring shall be undertaken as soon as practical after the specified time;</p>	

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Reference	Conditions	Comment
	<p>i) Within two weeks of noise measurements being taken the monitoring, the Consent Holder must provide a detailed report on the noise monitoring and results shall be provided to the EPA. As a minimum, this report shall must include details on the equipment used, calibration methods used, measurement conditions and location and a summary of the noise levels measured, including broadband and one-third octave band frequency data and compliance of the operation with respect to the noise standards specified in Condition 56(a).</p> <p>j) Any start-up of the mining operation shall be undertaken as a soft start whereby equipment shall be gradually increased in power over a minimum of 20 minutes. For clarity, a soft start includes noise from the FPSO, SSED and associated plant.</p> <p><i>Advice note: 300 m, 750 m and 1000 m are to be used to check the level at 500 m. The minimum distance of 300 m has been adopted to ensure all site safety requirements are complied with.</i></p> <p><i>Measurements of the combined noise of the SSED and FPSO are to be made for a minimum period of two minutes and once the sound pressure level has stabilised.</i></p>	
57	In giving effect to this marine consent, the placement of one SSED on the seabed in the area in Plan A attached to and forming part of this marine consent is provided for. The Consent Holder must not use or place more than one SSED on the seabed at any one time.	This condition is to ensure that two or more SSEDs are not in operation at the same time in different parts of the application area creating two noise sources and therefore affecting a wider area for marine mammals and fish.
58	Prior to each soft start of the mining operation including the FPSO, SSED and associated plant, the Consent Holder must use trained observers, subject to Condition 62, to monitor a 500 m radius (mitigation zone) surrounding the FPSO for at least 30 minutes to ensure no marine mammals are present within a 500 m radius of the FPSO and SSED. No marine mammals are to have been sighted	This condition is to ensure that the effects on marine mammals from noise are minimised as much as possible. This is standard practice for offshore wind farms where the piling of turbines

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Reference	Conditions	Comment
	<p>in the mitigation zone for 30 consecutive minutes prior to initiating the soft-start operations. Records of observations must include but not be limited to:</p> <ul style="list-style-type: none"> a) date, time and location (where practicable in latitude/longitude) of all marine mammal sightings relative to the consented operation b) number of marine mammal individuals associated with each sighting, including the number of cetacean calves if present c) behaviour of marine mammals including travelling, feeding, milling, avoidance, attraction and changes in behaviour d) marine mammal injuries or mortalities (including those attributable to the consented operation) e) any management responses in relation to disturbed, distressed or injured marine mammals f) name(s) of the observer(s) g) approximate size of each mammal h) interaction between the mammal and any equipment, vessels or other inanimate objects related to the Consent Holder giving effect to this marine consent. <p>Records must be kept for each observation period prior to each soft start. Those records shall be made available to EPA staff on request and provided in the monthly mining report.</p>	<p>does not commence until a 500 m mitigation zone is observed by trained marine mammal observers and deemed to be clear of marine mammals.</p> <p>Director-General of Conservation proposed Condition 55 (Appendix C), which has been expanded by EPA staff.</p>

Presence of the FPSO and other vessels

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Reference	Conditions	Comment
59	<p>The Consent Holder must ensure that the Marine Mammal Monitoring and Management Plan under Condition 98 provides methods to ensure that:</p> <ul style="list-style-type: none"> a) masters of all vessels (excluding the FPSO): <ul style="list-style-type: none"> i) reduce speed to a safe minimum within 500 metres of any cetaceans in the project area ii) take all practicable steps to avoid cetaceans in the project area iii) take all practicable steps to avoid blue whale feeding aggregations in the wider South Taranaki Bight region b) there are no collisions between vessels associated with its operations and marine mammals. 	<p>This condition adopts the relevant parts of the condition agreed by the Director-General of Conservation (Condition 95 in conditions proposed by the Director-General on 13 April 2014) and TTR (Condition 100 in TTR's proposed conditions of 15 April). Some minor alterations have been made to this condition to assist in monitoring compliance.</p>
60	<p>The Consent Holder must ensure that the Marine Mammal Monitoring and Management Plan under Condition 98 provides methods to ensure that helicopters flying to and from the FPSO maintain a minimum altitude of 600 m (2000 feet) except when landing and taking off and that this can be monitored for compliance with this condition.</p>	<p>Condition proposed by the Director-General of Conservation (Condition 95(c) in Appendix C) to minimise disturbance to marine mammals from helicopters. Accepted by TTR (Condition 100(c) in Appendix B). Subject to minor wording change by EPA staff.</p>
61	<p>The Consent Holder must provide all employees and contractors undertaking seaborne works with a marine mammals species identification guide and shall prepare and implement a training package and programme (including assessment and certification) for staff and contractors to help ensure accurate species identification and assessment of behaviour to meet the obligations of Condition 25.</p>	<p>Condition proposed by the Director-General of Conservation (Condition 50 in Appendix C) and adopted by TTR (Condition 94 in Appendix B). Subject to minor wording change by EPA staff.</p>
62	<p>The Consent Holder must ensure:</p> <ul style="list-style-type: none"> a) observers that are trained in terms of marine mammal identification, behaviour observation, operational procedures and reporting are employed to monitor cetaceans on board all the 	<p>Condition proposed by the Director-General of Conservation (Condition 51 in Appendix C) and adopted by TTR (Condition 95 in Appendix B).</p>

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Reference	Conditions	Comment
	<p>Consent Holder's vessels</p> <p>b) at least one assigned observer is on active duty on every vessel including the FPSO engaged in works during daylight hours (including vessels travelling to and from the extraction area)</p> <p>c) observers maintain regular checks for marine mammals around the operational area and report all marine mammal sightings</p> <p>d) observers maintain a daily log of all marine mammal sightings and interactions including that listed in Condition 58.</p>	<p>Subject to minor wording change by EPA staff.</p>
63	<p>The Consent Holder must report, in writing, any marine mammal impacts, strikes, entanglements or deaths to the Department of Conservation and EPA within 24 hours. If an impact, strike, entanglement or death involves a Maui's/ Hector's dolphin, the Consent Holder must, subject to the Consent Holder's obligations under the Marine Mammals Protection Act 1978:</p> <p>a) recover the carcass</p> <p>b) notify DOC, in writing, immediately and return it to shore within 24 hours for collection by DOC</p> <p>c) put the animal carcass on ice to preserve it.</p>	<p>This condition has been proposed by the Director-General of Conservation (Condition 54 in Appendix C) and adopted by TTR (Condition 102 in Appendix B).</p>
64	<p>The Consent Holder must report any sightings of a Maui's or Hector's dolphin to the Department of Conservation immediately (e.g. within five minutes of the sighting) and give details including location, time, weather conditions, number, size.</p> <p><i>Advice note: The appropriate contact details for the Department of Conservation are [to insert].</i></p>	<p>This condition has been proposed by the Director-General of Conservation (Condition 53 in Appendix C) and adopted by TTR (Condition 97 in Appendix B). Subject to minor wording changes from EPA staff.</p>
65	<p>The Consent Holder must ensure all vessels associated with the exercise of this marine consent are</p>	<p>To maintain contact between the mining vessels and any craft that may be servicing the Kupe</p>

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Reference	Conditions	Comment
	equipped with AIS (Automated Identification System), which must be turned on at all times.	platform and ensure navigational safety.
66	<p>The Consent Holder must notify the EPA, Maritime New Zealand, local <u>and</u> fishing operators that, <u>at the commencement of each fishing year, hold quota allocations a licence to commercially fish in Fisheries Management Area 8</u> for fisheries inside an area 2 km² from the boundaries of the area shown on Plan A, Ports of Wellington, Taranaki, Wanganui and Nelson and Land Information New Zealand at the beginning of each month prior to undertaking anchor placement and removal of seabed material of:</p> <ul style="list-style-type: none"> a) coordinates of the area where seabed removal and anchor placement will occur b) VHF channel for communications c) dates of effect. 	<p><u>To ensure safety at sea, hazards to navigation must be communicated to all those fishers likely to transit the area, not just those who own quota for fisheries in the area.</u></p>
67	<p>The Consent Holder must ensure that no unwanted or risk species, as identified by Biosecurity New Zealand <u>or any species considered new to New Zealand</u> are transported on any vessel or equipment associated with the exercise of this consent. The Consent Holder must provide a Biosecurity Management Plan as detailed in Condition 102 to identify measures to ensure compliance.</p>	
68	<p>The Consent Holder must comply with the Requirements for Vessels Arriving in New Zealand 2010 <u>Craft Risk Management Standard for bio-fouling of vessels arriving in New Zealand 2014</u> administered by the Ministry for Primary Industries. <u>For the purpose of meeting this condition the consent holder can not use the 4 year voluntary provisions, and must ensure vessels meet the long-stay standards.</u></p>	To ensure biosecurity risk is addressed.
69	<p>The Consent Holder must comply with the Import Health Standard 2005 <u>for ballast water</u> administered by the Ministry for Primary Industries.</p>	To ensure biosecurity risk is addressed.

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Reference	Conditions	Comment
70	The Consent Holder must maintain a log of all bird strikes on all vessels including date, time and weather conditions, including wind direction and approximate wind speed, the real-time New Zealand MetService forecast for the mining area and any forecast warning for the area and the presence of precipitation, fog or any other weather-related impact on visibility, a record of the bird species and the condition of the bird (mortality, released alive and unharmed, injured). This information must be provided electronically to the EPA and Department of Conservation within one week of the incident.	This condition is proposed by the Director-General of Conservation (Condition 84 in Appendix C) to monitor the effect of the vessels on birds. The EPA staff have proposed minor alterations to wording.
71	The Consent Holder must avoid bird strikes on all vessels through the development of the Seabirds Effects Lighting Mitigation and Management Plan in Condition 97.	
72	The Consent Holder must not operate in sea states above the maximum identified for safe deployment and operation of the SSED. This upper limit will form part of the Operational Manual and Safety Contingency Plan required under in Condition 88.	TTR's application documents state a limit of sea state 4 m for operations however, some of the experts believe otherwise, and the South Taranaki Bight (STB) is often above 4 m.
73	The Consent Holder must notify the EPA in writing 24 hours prior to undertaking any fuel transfer operations required to give effect to this marine consent of the intent to undertake such a transfer.	
74	The Consent Holder must notify the EPA, Maritime New Zealand and the relevant regional council and harbourmaster in writing of the location for each transfer of iron ore between the export vessel and FSO at least 24 hours prior to the transfer taking place.	To enable a notice to mariners and for monitoring purposes.
75	The Consent Holder must ensure that transfer operations are undertaken only when the receiving vessel is at anchor or under dynamic positioning or making steerageway.	To avoid a collision.
76	The Consent Holder must avoid spillage of material, other than that described as discharges provided for in the application, into the marine environment. This includes but is not limited to the loss of heavy	

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Reference	Conditions	Comment
	fuel oil and iron ore concentrate.	
77	The Consent Holder must ensure that the lifting equipment required for the SSED is independently certified every year and certification is maintained until the expiry of this consent. Certification and maintenance records must be kept by TTR at their head office and on the FPSO and made available to the EPA on request.	To ensure equipment does not lead to an unplanned event such as loss of the SSED.
78	The Consent Holder must prepare a stability book before conducting any ore transfer operations that, at a minimum, will include but not be limited to processes for loading each export vessel (which includes contingencies for interruption due to weather). This must be provided to the EPA one month prior to the first transfer operations performed as a consequence of giving effect to this consent.	
79	The Consent Holder must ensure vessels comply with the Convention on the International Regulations for Preventing Collisions At Sea 1972 (COLREGS).	
80	The Consent Holder must ensure that all vessels maintain registration with Flag State and Class. Statutory obligations of the Flag State, Class and Coastal State must be maintained at all times, and documents should be made available to the EPA on request.	

Burning of HFO

Reference	Conditions	Comment
81	This marine consent authorises either: <ul style="list-style-type: none"> i) the use of either 4 gas turbines; or ii) six 12v46 engines and one R1 7 cylinder engine on board the FPSO – if reciprocating 	As stated in the application and what has been used to predict the emissions produced.

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Reference	Conditions	Comment
	engines are used, a catalytic reduction system and scrubbers must be fitted to reduce emission levels	
82	Heavy fuel oil combusted by the Consent Holder to power the mining vessel must have a sulphur content of not more than 3.5% by weight, measured at purchase (or similar and prior to combustion).	As stated in the application and what has been used to predict the emissions produced. TTR has proposed this condition (Condition 104 in Appendix B). Subject to minor wording alterations by EPA staff.
83	The Consent Holder must ensure that ground level air quality at the Kupe platform is compliant with the Workplace Exposure Standards under the Hazardous Substances and New Organisms (HSNO) Act 1996.	To ensure Kupe workers are not exposed to levels of contaminants toxic to their health. We acknowledge that this control is not enforceable per se at this time but have included it in anticipation of clause 9 of the Health and Safety Reform Bill, which is currently before Select Committee, which envisages this control.

REPORTING

Pre-mining assessment report

Reference	Conditions	Comment
84	A pre-mining assessment report must be prepared and provided to the EPA for approval at least three months prior to removal of the seabed with the SSED in each proposed mining area. The purpose of this report is to identify within a proposed mining area the presence and extent of any	Change to Conditions 17 and 18 of TTR's conditions

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Reference	Conditions	Comment
	<p>mud layers beneath the seabed that are greater than 1 m thick so that those areas can be avoided when mining. The report must include but is not limited to:</p> <ul style="list-style-type: none"> a) an outline of the area where removal of seabed material will take place indicating mining lanes b) bathymetry of the seabed in the area where removal of seabed material is planned c) mineral grade projections and mine plan schedules d) definition of mud layers in the area to be mined e) procedure for avoiding identified mud layers f) the timing of proposed extraction and deposition activities in areas identified in i). 	

Monthly mining report

Reference	Conditions	Comment
85	<p>The Consent Holder must prepare a mining report at the end of each month of operation and provide this to the EPA and other parties who opt to receive it electronically before the first Wednesday of the first week of each month during the mining activity. The mining report must include the following for the prior month of operation:</p> <ul style="list-style-type: none"> a) GPS positions of anchor placements on the seabed and coordinates illustrated on a map with the mining area as shown in Plan A clearly marked. b) GPS positions of the SSED placement and tracks during operation and coordinates illustrated 	Replaces TTR's proposed Conditions 17 and 18 (15 April 2014) relating to annual and initial extraction reporting.

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Reference	Conditions	Comment
	<p>on a map with the mining area as shown in Plan A clearly marked.</p> <p>c) Bathymetry of the seabed in the area where removal of seabed material has taken place.</p> <p>d) Volume and rate of removed and deposited seabed material.</p> <p>e) Maximum and average depth of seabed removed by the SSED throughout each mining lane.</p> <p>f) Average depth and GPS position of any unfilled pits remaining after completion of a mining lane.</p> <p>g) Average height and GPS position of any mounds created during the deposition of seabed material.</p> <p>h) Particle size distribution (PSD) of all seabed material discharged from the FPSO.</p> <p>i) Location and height above the seabed of discharge pipes whilst discharging seabed material.</p> <p>j) Salinity of discharges.</p> <p>k) Any other components required by conditions of this marine consent.</p>	

MANAGEMENT PLANS

Reference	Conditions	Comment
86	<p>The following management plans must be prepared and submitted to the EPA as part of the proposed EMMP.</p> <p>a) Operational Manual and Safety Contingency Plan.</p>	Adopts TTR's proposed Condition 52, and replaces TTR's proposed Conditions 53 and 119 (15 April 2014).

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Reference	Conditions	Comment
	<ul style="list-style-type: none"> b) Spill Contingency Management Plan. c) Recreational Fishing and Diving Management Plan. d) Commercial Fishing Management Plan. e) Seabirds Effects Lighting Mitigation and Management Plan. f) Marine Mammal Monitoring and Management Plan. g) Biosecurity Management Plan. 	
87	The Consent Holder must comply with management plans that have been reviewed under Condition 14A.	<p>Replaces TTR's proposed Conditions 54 and 55 (15 April 2014).</p> <p>Sections 83 and 84 of the Act provide a process for minor amendments and corrections to consent conditions.</p> <p>Note that the EPA to does not consider TTR's proposed Condition 57 (15 April 2014) to be necessary as the EPA is entitled to recover actual and reasonable costs associated with an existing marine consent from the Consent Holder in accordance with section 143(2)(d) of the Act and the Exclusive Economic Zone and Continental Shelf (Fees and Charges) Regulations 2013.</p>

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Operational Manual and Safety Contingency Plan

Reference	Conditions	Comment
88	The Consent Holder must prepare an Operational Manual and Safety Contingency Plan with the objectives of ensuring navigational and maritime safety during project operations, minimising disturbance to benthos from placement and retrieval of anchors, minimising any interference with other non-mining related vessels in the area and avoiding unplanned events.	
89	<p>Subject to Condition 86, the Operational Manual and Safety Contingency Plan must be developed with information including but not limited to the following:</p> <ul style="list-style-type: none">a) An assessment of compliance with all environmental limits imposed by this marine consent, using but not limited to hydrodynamic models and motion studies as well as meteorological data for the mining site area.b) Determination of operating limits that will ensure compliance with this marine consent and in particular Condition 72.c) A formal risk analysis, hazard and operability studies and vessel assessment to be used to develop vessel design to ensure compliance with this marine consent including but not limited to:<ul style="list-style-type: none">i) depth of waterii) range of sea states in the South Taranaki Bightiii) range of weather conditions in the South Taranaki Bight.d) Preparation of standard and emergency operating procedures for use by the vessel crews and company management.	

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Reference	Conditions	Comment
	<p>e) Detail of all key operations including but not limited to:</p> <ul style="list-style-type: none"> i) positioning, anchoring and mining operations for the FPSO ii) product transfer between FPSO and FSO iii) product transfer between FSO and export vessel iv) fuel and other liquids transfers v) transfer of provisions and stores vi) controls relating to avoidance of potential collisions with marine mammals. <p>f) Operating procedures for export vessels.</p> <p>g) Procedures for recovery and placement of anchors associated with the FPSO.</p> <p>h) Metocean data including operational limits with respect to sea state during anchor handling activities.</p> <p>i) Emergency procedures in the event of an unplanned occasion including storm events, equipment failure, loss of the FPSO anchor(s) and vessel collision.</p> <p>j) Contractor name and contact details of the operator of the anchor handling tug.</p>	
90	<p>Subject to Condition 89(a), environmental limits will cover wind speed and direction, sea and swell height including combined waves and directions for:</p> <ul style="list-style-type: none"> a) mining operations b) product transfer operations (FPSO to FSO) 	

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Reference	Conditions	Comment
	<ul style="list-style-type: none"> c) product transfer operations (FSO to export vessel) d) fuel transfer operations e) other provisioning operations. <p><i>Advice note: The Operational Manual and Safety Contingency Plan must also provide the basis for applications to Maritime New Zealand for fuel and product transfer operations at sea as required under the Marine Protection Rules Part 103.</i></p>	
91	<p>The Consent Holder must review and if necessary update the Operational Manual and Safety Contingency Plan and submit it to the EPA for approval certification:</p> <ul style="list-style-type: none"> a) one month after the first anniversary of the commencement of activities authorised by this marine consent b) one month after any incident of non-compliance identified by the EPA c) in the event of any emergency requiring notification of emergency management agencies including but not limited to Police, Maritime NZ and the Coastguard d) one month prior to any change in the operation that may result in non-compliance with the conditions of this marine consent. 	
92	<p>The Consent Holder must undertake operational audits of key operations listed in Condition 89(e) six months one year after the first anniversary of the commencement of activities authorised by this marine consent and every three years <u>biennially</u> thereafter. These must be provided to the EPA electronically within one month of completion.</p>	
93	<p>The Consent Holder must maintain a log of operational accidents or incidents, which must be recorded</p>	

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Reference	Conditions	Comment
	and provided electronically to the EPA on request.	

Spill Contingency Management Plan

Reference	Conditions	Comment
94	<p>Subject to Condition 86 of this consent, the Consent Holder must prepare a Spill Contingency Management Plan (SCMP) with the objective of ensuring that no oil or iron ore is spilled in the marine environment. The SCMP includes but is not limited to the following:</p> <ul style="list-style-type: none"> a) Details of methodologies, technologies, techniques and operating procedures that will result in compliance with the requirements of this marine consent and in particular Condition 76. b) Details of processes, methods, responses and recovery that will be employed in the event of any spill of oil or iron ore concentrate to the environment, including but not limited to details of measures taken to avoid, remedy or mitigate the effects of any such spill event. <p><i>Advice note: The provisions of the SCMP may overlap with but do not replace spill contingency requirements set out in any Discharge Management Plan or equivalent prepared pursuant to requirements of the Maritime Transport Act 1994 or equivalent.</i></p>	The EPA adopts Conditions 12, 58, 59 and 60 proposed by TTR (15 April 2014) and has provided minor amendments.

Recreational Fishing and Diving Management Plan

Reference	Conditions	Comment
95	Subject to Condition 86 of this marine consent, the Consent Holder must prepare a Recreational Fishing and Diving Management Plan (RFDMP) with the objective of ensuring that the quality of diving	

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Reference	Conditions	Comment
	<p>at the North and South Traps and Graham Bank is not reduced and recreational fishing is not impacted. The RFDMP must include but is not limited to:</p> <ul style="list-style-type: none"> a) a communication protocol that must ensure recreational fishers and divers can access updated information on a regular basis of effects of the project on popular fishing and diving locations and can identify that such information is available that will result in compliance with this marine consent and in particular Condition 66 b) identification of measures and monitoring to be taken by the Consent Holder to ensure compliance with conditions imposed on this marine consent. 	

Commercial Fishing Management Plan

Reference	Conditions	Comment
96	<p>Subject to Condition_ 86 of this marine consent, the Consent Holder must prepare <u>in consultation with the commercial seafood industry</u> a Commercial Fishing Management Plan (CFMMP) and ensure that the CFMMP includes but is not limited to:</p> <ul style="list-style-type: none"> a) evidence of consultation on the plan undertaken with: <ul style="list-style-type: none"> i) all commercial operators that hold <u>a licence to commercially fish in Fisheries Management Area 8 quota allocations for fisheries inside an area 2 km² from the boundaries of the area shown on Plan A</u> b) a protocol for communication with the commercial fishers identified in (a) above, <u>and fishers that fish in FMA8 but do not hold quota</u>, the primary aim of which would be to keep fishers informed on a regularly updated basis of exclusion zones, vessel movements, bathymetry and 	

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	<p>other mining activities that will result in compliance with this marine consent and in particular Condition 66.</p> <p>c) <u>details of actions that will result in reduction of effects on fisheries should the identified triggers in the EMMP, developed pursuant to Condition 14, be breached. The details of the actions, their duration and timing will be specified. This may include the cessation of mining.</u></p> <p>d) a contact list of companies operating in the area to whom the <u>information described in Conditions 96 b) and c)</u> above will be provided</p> <p>e) a protocol for consultation with the Ministry for Primary Industries (MPI) Northern Inshore Science Working Group, <u>Southern Inshore Working Group, Middle Depth Working Group and Aquatic Environment Working Group</u> in respect of fishing effort data and environmental effects as appropriate.</p>	

Seabirds Effects Lighting Mitigation and Management Plan

Reference	Conditions	Comment
97	<p>Subject to Condition 86 of this marine consent, the Consent Holder must ensure that the Seabirds Effects Lighting Mitigation and Management Plan includes but is not limited to:</p> <p>a) details of methodologies, technologies, techniques and operating procedures that will result in compliance with this marine consent and in particular Condition 71</p> <p>b) the conditions during which operations may need to be suspended to reduce the chance of bird strike/impact (e.g. fog, heavy rain)</p>	

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Reference	Conditions	Comment
	<p>c) procedures for reporting bird strikes to ensure compliance with this marine consent and in particular Condition 70.</p>	
98	<p>The Consent Holder must, within two weeks of the anniversary of the exercise of this marine consent and for three consecutive years, commission an annual report that reviews data collected by the Consent Holder and any independent observers for the previous 12-month period on seabird mortality associated with bird strikes on all its vessels. The author(s) of the review shall be agreed with the EPA prior to its commencement.</p>	
99	<p>The Consent Holder must ensure that the Department of Conservation is consulted as part of the process of the annual review, and the Department's views, if provided, must be noted in the report. The author(s) of the report may recommend to the Consent Holder changes to operational management practices to reduce bird strikes. The report including the recommendations must be provided to the EPA within two weeks of completion as well as any recommendations on changes to conditions relating to bird strike and/or the Seabirds_Effects Lighting Mitigation and Management Plan, including the setting or revision of trigger indicators or values relating to seabirds.</p>	

Marine Mammal Monitoring and Management Plan

Reference	Conditions	Comment
100	<p>Subject to Condition 86 of this marine consent, the Consent Holder must ensure that the Marine Mammal Monitoring and Management Plan includes but is not limited to:</p> <p>a) operational procedures to follow in the event of a marine mammal encounter and to</p>	

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Reference	Conditions	Comment
	<p>ensure compliance with this marine consent and in particular Conditions 32, 58 and 59(b)</p> <p>b) reporting procedures to ensure compliance with this marine consent and in particular Conditions 56, 63 and 64.</p>	
101	<p>The Consent Holder must compile a report six months after the exercise of this consent and thereafter every six months detailing all marine mammal sightings from the previous six-month period. This must be provided to the EPA electronically within four weeks after the end of each six-month reporting period. This report must include as a minimum:</p> <ul style="list-style-type: none"> a) date and location of all marine mammal sightings relative to the consented operation b) number of individuals (including cetacean calves) associated with each sighting c) behaviour of marine mammals including travelling, feeding, milling, avoidance, attraction and changes in behaviour d) any marine mammal injuries or mortalities (including those attributable to the consented operation) e) an assessment of the sightings data by a qualified marine mammal biologist, in particular assessing the effect, if any, of the consented operation on the occurrence and behaviour of marine mammals sighted. 	

Biosecurity Management Plan

Reference	Conditions	Comment
102	Subject to Condition 86 of this marine consent, the Consent Holder must prepare a Biosecurity	

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Reference	Conditions	Comment
	<p>Management Plan with the objective of ensuring that no unwanted or risk species <u>or species not normally found in New Zealand</u> are introduced into New Zealand as a result of the exercise of this consent. The Biosecurity Management Plan <u>should be approved by the TPRG following discussion with MPI and Aquaculture New Zealand. The Biosecurity Management Plan</u> must include but is not limited to:</p> <p>a) the measures to be undertaken to avoid the introduction of unwanted <u>organisms</u> or risk species <u>identified by the department of State not already present in the area</u>, that with the authority of the Prime Minister, is for the time being responsible for the administration of the Biosecurity Act 1993 <u>or species not already present in the area</u>.</p> <p>b) evidence of compliance with Conditions 68–70.</p>	

Community Trust

Reference	Conditions	Comment
<u>102A</u>	<p><u>The Consent Holder must establish and maintain a Community Trust for the duration of the consent. The objectives of the Trust will be to provide benefit to effected communities by financially supporting initiatives. The Consent Holder shall administrate and promote the Trust and contribute no less than \$100,000 each two year period. Trustees on the Trust shall compromise a representative from iwi, commercial fishing, the wider local community.</u></p>	<p>This was proposed by the applicant in their draft consent provisions.</p>

PUBLIC LIABILITY INSURANCE

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Reference	Conditions	Comment
103	<p>The Consent Holder must ensure that it maintains insurance in respect of its potential liability for loss or damage while giving effect to this marine consent, including but not limited to public liability insurance for a sum not less than NZ\$100,000,000 (2014 dollar value) for any one claim or series of claims arising from giving effect to this marine consent.</p> <p>At a minimum, the public liability insurance must cover all costs of environmental restoration <u>and the liability to pay damages or compensation for commercial losses howsoever arising required</u> as a result of an unplanned event occurring during the exercise of this consent.</p> <p><u>The terms of the policy, policy exemptions and the process by which claims are to be filed is to be reviewed by the TPRG and agreed to by the EPA.</u></p>	<p>The EPA staff propose this condition to replace Condition 13 proposed by TTR and ensure that amount proposed by TTR will cover the relevant listed matters.</p>
104	<p>The Consent Holder must submit a certificate demonstrating that it holds the insurance required by Condition 103 prior to giving effect to this consent and an updated certificate annually by 1 July of each year for the term of this marine consent to the EPA.</p>	

EXPIRY

Reference	Conditions	Comment
105	<p>This marine consent will expire after the sooner of:</p> <p>a) X years after the commencement of activities authorised by this consent or</p>	

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Reference	Conditions	Comment
	<p>b) X years after the date of grant of consents.</p> <p><u>In the event that the EPA determines the consent is having unacceptable adverse effects on the environment or existing users the EPA may serve notice on the Consent Holder of its intention to review the conditions of this consent including withdrawing it.</u></p>	

2. Glossary

In this report, terms have the meanings given to them in the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, or regulations made under that Act, unless specified below.

Coarse tailings means discharged sediment greater than 90 microns.

Equipment in Condition 32 includes, but is not limited to, ropes and floats.

Fine sediment means discharged sediment less than 90 microns.

Mol photon means absolute light intensity or the proportion of surface light that reaches the seabed.

Mound means an accumulation of sediment up to 300 m wide and up to 300 m long and between 2 and ~~40~~ 3 m high.

Pit means a hole with a maximum width of 300 m and a maximum length of 300 m and between 2 and ~~40~~ 3 m deep.

Sensitive environment means, in relation to the exclusive economic zone or continental shelf, an area that contains any of the habitats listed in the first column of Schedule 6 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013.

Soft start means a gradual or incremental start-up of the Subsea Extraction Device (SSED) and production unit before that equipment is used at full power to excavate seabed material.

Stability book means a book that is created for a vessel usually by a naval architect that carries information about the stability of the vessel under different load conditions.

Subsea Extraction Device (SSED) means a device placed on the seabed and used to extract material from the seabed.