

**In the matter** of the Resource Management Act 1991

**And**

**In the matter** of an application for Resource Consents by Oceania Dairy Limited to construct and operate a pipeline to discharge treated wastewater into the ocean.

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**APPLICANT RESPONSE TO COMMISSIONERS QUESTIONS**

**28 May 2020**

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**Is the Ocean outfall site near any other rivers, other than the Waitaki River?**

- 1 As identified in the Assessment of Environmental Effects at page 44, there are no freshwater environments in the immediate area. The closest freshwater habitat is Whitneys Creek, located 4.5km from the proposed ocean outfall. The mouth of the Waitaki River is approximately 10km south of the proposed ocean outfall.

**The application records that the outfall pipe is to be located within the road reserve? Are there any issues, legal or otherwise, that need to be addressed to ensure this can be achieved?**

- 2 Approval from the Waimate District Council (**WDC**) is required to undertake construction in the road reserve. As outlined in the evidence of **Ms Singh** at paragraph 33 and **Mr Khareedi**, the roading manager for WDC is aware of the need to use the road reserve, and has indicated agreement in principle to this (**Appendix 4 to Ms Singh's** evidence). Further details, including formal approval and detailed design, will follow when there is certainty about the resource consents.
- 3 This is essentially an issue for the WDC, as landowner. Resource consents can be granted over land that is not owned by the applicant, however a resource consent does not provide the consent holder rights to access or use the land. An agreement to do the works will be made with WDC, as outlined above.

**Can you explain in lay person terms why three diffusers are used in the outfall, their purpose and how they work.**

- 4 The diffusers intend to space-out the discharge to increase and speed-up dilution under different sea conditions avoiding the creation of concentrated plumes. Different sea conditions (combinations of wind, waves, and currents) carry the discharge to different directions, with some rare occasions taking the plume directly to the shore.
- 5 Please note that in lay person terms a plume does **not** mean a visible plume – rather it used in a scientific sense to denote the direction of movement from the diffusers.
- 6 The proposed design was created over an iteration process of modelling dilutions for a series of combinations of outfall designs and sea conditions, where it achieved the best combination of dilution in the CMA at the coastline for all scenarios.
- 7 It works by spreading the discharge in a way that under variable sea conditions dispersion occurs to limit the concentrations of the plume. This is outlined further in the evidence of **Mr Coutinho**.

- 8 In addition, having three diffusers allows for maintenance to be undertaken, while still retaining two points of discharge.

**The application states that the discharge capacity is greater than the 4000m<sup>3</sup>/day discharge anticipated after completion of Stage 3 of the planned expansion of the factory. Can you explain why that is and whether the excess capacity is likely to create any issues?**

- 9 The current maximum wastewater generated is 4,000m<sup>3</sup>/day. The anticipated Stage 3 wastewater generation is up to 10,000m<sup>3</sup>/day. The discharge capacity is designed to facilitate the full anticipated wastewater volume.
- 10 The discharge will be pumped out to guarantee that there is enough pressure to open the no-return valves at the end of each diffuser. There will be no issue with excess capacity, the discharge will work just as well with 4,000m<sup>3</sup> or 10,000m<sup>3</sup> (or somewhere in the middle). At lesser volumes below the maximum rate of discharge, the effective discharge period (number of hours) will decrease over a 24 hour cycle.

**Can you please explain how you intend the existing wastewater irrigation system will be maintained and used in conjunction with the proposed outfall discharge?**

- 11 To ensure the wastewater irrigation system is operated at GMP as well as Resource Consent Conditions, wastewater would be discharged through the Ocean Outfall:
- 11.1 Before, during, and after periods of high or prolonged rainfall;
- 11.2 During periods of low evapotranspiration;
- 11.3 When soil temperatures are low (i.e. a period when pasture is not actively growing);  
and
- 11.4 Dependent on the timing of on farm activities e.g. before and during the harvesting of grass and maize, during periods before and during cultivation and re-sowing .
- 12 The existing wastewater irrigation system would be used:
- 12.1 During periods of water demand for plant and crop production, treated wastewater and irrigation from the MGI irrigation scheme will be irrigated to land.
- 13 The factors for determining the discharge to ocean and discharge to land are listed in the evidence of Mr Lodge.

**Can you please provide us with copies of any conditions of consent that have been imposed with the grant of consent for stages 1 and 3 relevant to this application?**

- 14 Stage 1 consisted of the construction of a 10MT/hour dryer, coal fired boiler and control room, water treatment plant and DAF wastewater treatment plant, wastewater tanks, drystore, administration officers and laboratory.
- 15 Stage Two was the building of the UHT plant, the canning and blending plant an extension of the drystore and an increase in wastewater treatment capacity by way of a second drystore.
- 16 At Table 2 in Appendix 1 of **Ms Singh's** evidence, as well as paragraphs 22 and 23 of that evidence, details of all resource consents are provided.
- 17 Consents relating to Stage 3 are addressed further below.

**Can you please explain how Oceania only have access to 278ha of the 404ha to irrigate its wastewater?**

- 18 Summary from **Mr Lodge's** evidence:
- 18.1 412ha covered by 2 consents (the 404ha figure above is incorrect) made up as follows:
- Up to 316 ha covered by irrigation wastewater irrigation consent currently active on home farm 272 ha of this under pivot irrigation.
  - 6ha under fixed grid – this strip of land along state highway one is used only for Cow water/Clean water disposal.
  - Up to 90ha on separate block consented but not irrigated due to timing of M bovis and its effects on the landowner.
  - 44ha of land not covered by pivots due to land shape – dryland grass, dryland Lucerne, and borderdyke.
  - Farm races.
  - Irrigation race.

**What has the applicant done to acquire the additional land required to meet the current consent conditions and/or obtain sufficient land to meet existing consent?**

- 19 The Applicant has consented an additional 90 ha to give the ability to expand the irrigated area when/if required for irrigation. For the reasons in **Mr Lodge's** and **Mr Duder's** evidence, proceeding with this area (or any additional area) would not achieve the best environmental outcome for sustainable year-round operations. In practical terms the

additional 90 ha would not be sufficient for a stage 3 development and it would have the same seasonal /soil saturation issues associated with it.

20 Mr Lodge has also explained that there are on-farm reasons associated with M Bovis which practically affect irrigation of this area.

21 The Applicant has elected to apply for an ocean outfall resource consent. The Applicant accepts that consideration of alternatives is a requirement under section 105(1)(c) of the RMA, however for the reasons outlined in **Mr Duder's** and **Mr Lodge's** evidence, there are inherent issues with a discharge solely to land.

22 This question also infers that there is a current compliance issue with the irrigation consent. That is not the case. The consent CRC164414 differentiates between "factory wastewater" and "clean wastewater". The 42A Report at Table 11 (pg 62) addresses compliance and specifically references ongoing non-compliance with the above consent due to ponding. Ponding conditions are contained in the consent and are for minimisation of ponding on the ground [condition 14 (e)(i) - (iv)] associated with the conditions for factory wastewater (using the term above). Clean wastewater is regulated by condition 18 of the consent. Clean wastewater discharge occurs adjacent to SH1 and ODL is aware of some ponding associated with this irrigation area. Even in the event that the ponding condition also applies to clean wastewater discharge, there is no information that ODL has exceeded the criteria contained in the consent. The Applicant accepts that ponding of wastewater will have been visible from time to time, but visibility is not a trigger to determine compliance. The Applicant considers that it is compliant with the current consent conditions.

23 The Applicant accepts that some submitters have identified concerns as the discharge does not comply with good management practice for irrigation, however an industrial wastewater discharge is not normal irrigation, and the conditions of resource consent CRC164414 reflect that.

**Why has the additional 90h not be [sic] connected? Is this an option to increase land based discharge?**

24 As mentioned above, the timing of the M Bovis outbreak had significant effects on the landowner of the 90ha block, which meant ODL was not able to use the land for wastewater discharge.

25 Regardless, the 90 ha isn't enough land for wastewater discharge for further development. Limitations due to soil type and the current dairy farm grazing system prevent it from being fully utilised. This area was consented as a backstop for the irrigation of wastewater from the current plant to further improve efficiency of the current system. ODL has undertaken

significant considerations of alternatives, and has concluded that the ocean outfall is the better option.

**Why can pivot irrigation not be used across all of the current 314h rectangular blocks?**

- 26 The irrigation blocks are not all rectangular. ODL could potentially add one additional (very small) pivot on an area currently irrigated by border dyke. This area was not needed when irrigation areas were initially established.

**During the engagement meetings with the community were they given the option of considering marine vs land discharge as a preference?**

- 27 No the Community was not asked to express a preference. The applicant following expert advice on a sustainable solution did not consult on all possible options identified in the evidence of **Mr Duder**. Consultation has been on the basis of the ocean outfall as an additional consent to the land-based system which was already operational. Expansion solely of a land based system was not considered viable or sustainable for the reasons cited in evidence of **Dr Wilson, Mr Duder** and **Mr Lodge**.

**How do you work out when there is sufficient volume in the holding tank to create the necessary pressure for all three diffusers to operate, so that the treated wastewater will be discharged via the ocean outfall?**

- 28 As outlined above at paragraph 9, the wastewater will be pumped. Pressure will be created by pumping, rather than requiring minimum levels of wastewater before releasing it to the ocean outfall.
- 29 Less volume per day means that the number of hours required for discharge is reduced, but the same pressure is assumed by the pump's technical specifications.

**If the consent was granted and required the surrender of the existing consents that allowed for discharge to land then what alternative options have been considered for maintenance or periods where it may not be possible to discharge to the marine environment?**

- 30 The discharge to land consent is not the subject of this hearing. The applicant is clear that it needs resilience with both systems operational to meet best environmental outcomes. Although the two systems complement each other, particularly in relation to maintenance periods, the driver for the ocean outfall application is to provide capacity where discharges to land cannot, having regard to the likely expansion of this plant.

**What proportion of wastewater is ‘treated v ‘clean’? Could the waste streams be separated and the clean water be disposed of by alternative means more easily than the treated, e.g. irrigation with no odour, to reduce the volume discharged to sea?**

31 Volumes for a full production season is as per the table below

	<b>Treated Wastewater</b>	<b>Cow water</b>	<b>Irrigation Water</b>
<b>Volume m<sup>3</sup></b>	635,860.00	176,096.00	156,816.90
<b>%</b>	66%	18%	16%

32 Waste streams are already separated into Treated Wastewater and Cow Water RO (Reverse Osmosis Reject clean water). Cow water (including any other clean RO reject water) is currently irrigated on to the 6ha area (called “The Zones”) under the consent at a max 1500 m<sup>3</sup> which has not been exceeded.

33 Water from the site to the wastewater treatment plant is minimised as all storm/rainwater is diverted to an alternate storm water system.

34 The Cow water reuse project will reduce the clean volumes for irrigation by up to 90%.

**The application states that a calibrated numerical model is utilised to determine the reasonable mixing zone. Can you please explain why this model is appropriate here? What are the risks with the model both positive and negative? What should be included in conditions to check that the modelled outcomes reflect reality? What are the assumptions and risks around those assumptions?**

35 The model is appropriate as it determines the movement and mixing of two fluids (effluent and sea water) based on the acting forces of winds, waves, and currents. This is appropriate as it shows how the effluent is going to mix and move based on different sea conditions along the year. The model is considered conservative, i.e. it is very likely that higher dilution rates will occur. See the evidence of **Mr Coutinho** for further details.

36 The model has assumed a single point source discharge rather than the three diffusers that will in practice be adopted as part of the design.

37 Uncertainty is considered with the precautionary approach taken in the QMRA (see evidence of **Ms Stott**) of estimating potential health risk in calm conditions with minimum dilutions likely to occur in rare circumstances.

**As part of a local bathymetry survey, the application states that a wave/current/water level measurement instrument was deployed for 28 days for the development of the near shore model domain and for model calibration. Can you please explain what determines 28 days is a suitable period for this survey?**

- 38 The 28 days covered a variety of sea conditions (wind, wave, and current force and direction) that were considered enough to test the model. The recorded data also confirms what is described in available literature (longshore currents and strong south-east swells). This is explained further from paragraph 36 onwards of **Mr Coutinho's** evidence.

**The application states that ocean outfalls in the region are not uncommon. Can you please set out how many others are in the region and the proximity to the application site?**

- 39 As outlined at page 25 of the AEE, there are two consented outfalls to the north of the proposed site. The Fonterra Studholme outfall is approx. 15km north, and the Silver Fern Farms Pareora abattoir is 20km north again (so 35km in total from the application site).
- 40 Further afield, there are four other outfalls between Clandeboye (north of Timaru) and Oamaru. These are not considered to be proximate to the site, however further details can be found in the evidence of **Ms Coates** at paragraph 66.

**The application records that the dispersion modelling report considers the modelling results to be conservative. Can you please advise how these modelled results compare with Fonterra Studholme?**

- 41 The Applicant understands that the Fonterra Studholme application did **not** prepare a model for the application process. There is a consent condition (condition 5 of CRC160876) that requires numerical or physical modelling to demonstrate that the diffuser will reach required dilution to be undertaken prior to construction. The Applicant is unaware of whether this modelling has been completed.

**How does Oceania propose to ensure the design of the final outfall diffuser configuration will meet the minimum dilution requirements in the proposed resource consent conditions?**

- 42 The modelled dilution is conservative and does not take into account valves and plume ascension. Therefore, any diffuser used in the final design, as long as it is located at the modelled points, should achieve higher dilutions than modelled. This is explained further in paragraph 43 of Mr Coutinho's evidence.



**Is consent required, and has it been obtained, for the crossing of the South Island Main Trunk Railway Line?**

- 43 **Ms Singh** has addressed this at paragraph 32 of her evidence. In summary, ODL has consulted with KiwiRail, and an application for permission to dig will be applied for after the detailed design is completed.

**The application states that any sediment laden water will be discharged to a tank for primary treatment (settlement) before being discharged. Can you please advise which proposed condition of consent reflects this?**

- 44 This is to be included in the Construction Management Plan, and isn't considered necessary as a specific consent condition. One could be added if there were concerns, however we note that ODL is also bound by the application documents, which outline a clear intention to use settlement tanks if dewatering occurs.

**Is dredging the seabed included as one on the applications for consent?**

- 45 Dredging is a disturbance of the seabed, which is authorised under proposed consent CRC201190.

**What is the significance of the pipeline route crossing under a high voltage electricity line, which is noted on the planning maps?**

- 46 This is addressed by the evidence of **Ms Singh** at paragraph 33. In summary, no resource consents are required from the Waimate District Council, and there is no significance of the pipeline route passing under the high voltage electricity line. Consultation with Transpower NZ has resulted in an advice note sought by Transpower which is supported by ODL. We also note that compliance with the relevant code is compulsory.

**The application notes there are two consented outfalls in to the north of the assessment area. Are either of those being operated yet? Have any other outfall applications been made?**

- 47 Fonterra Studholme: The Environment Canterbury database shows the Fonterra consents as being inactive, indicating that they have not been given effect to.
- 48 Pareora abattoir: Yes. The Pareora discharge has been operational since 1904 under various different consents.
- 49 The Applicant is unaware of any other applications for ocean outfall. This question may be better addressed by Environment Canterbury staff, who are privy to all applications.

**Please expand on why the predicted increases in nutrients are unlikely to trigger more frequent algal blooms.**

- 50 See paragraphs 44 – 46 of **Dr Wilson’s** evidence for further details.
- 51 The predicted increases are unlikely to trigger more frequent algal blooms because:
- 51.1 General conditions (high energy) significantly reduce likelihood of blooms forming;
- 51.2 Predicted concentrations greater than 80<sup>th</sup> percentile background value are small for the principal trigger (1 % exceedance for DIN), only predicted at maximum discharge rates, minimum energy conditions (so very rare), and furthermore are not anticipated to persist long enough for blooms to develop as a consequence.

**Please elaborate on why Dr Wilson concludes the effects will be less than minor?**

- 52 The following are excerpts from **Dr Wilson’s** evidence, and paragraph numbers of that evidence is referenced:
- 52.1 Para 38: “...outside the 50 m zone of reasonable mixing, there is no evidence to indicate the proposed discharge will cause adverse ecotoxicological effects.”
- 52.2 Para 39: “...even within the zone of reasonable mixing, the ecotoxicological risks will be very low.”
- 52.3 Para 40: Physicochemical effects no greater than modelled for Studholme.
- 52.4 From Para 44: “Increased algal growth, in particular the development of algal blooms requires consistent temperatures, generally calm conditions and extended periods of time (weeks-months; Anderson et al 2002). Such conditions are very unlikely to persist long enough about the proposed outfall. The proposed exceedance for DIN, which can limit algal growth in marine environments is only 1% over the reference condition, so even slightly less calm conditions will result in concentrations that meet ANZG (2018) reference standard”.

**What would be required to ensure that the treatment system can effectively reduce faecal?**

- 53 Upgrading the current wastewater treatment facilities will improve microbial removal. Sizing of the UV system and dose requirement will be based on the reduction of microbial contaminants required. The efficacy of the UV treatment system can be checked using operational monitoring and the treated wastewater quality can be determined from the consent requirement for monitoring to ensure that microbial contaminants are present in low concentrations. This is explained further in the evidence of **Ms Stott**.

**What measurements are to be used to check for any in-situ microbial regrowth in wastewater treatment and disposal system as recommended by NIWA? Please explain how measurement are taken, for how long and why this approach will work? What should be done if the results are not satisfactory?**

- 54 Water quality monitoring using faecal indicator bacteria (**FIB**) post UV treatment (on site) can be compared with water samples collected prior to outfall discharge from the inspection chamber to check for deterioration during conveyance of wastewater for discharge. Monitoring can be carried out during the interim period (**Ms Stott** recommended an initial programme of quarterly, dropping to 5 yearly if results are consistent). If FIB results indicate significant deterioration, procedures should be instigated to manage biofouling within the conveyance pipeline. This is fairly common in discharges like this one, and can include increasing the velocity of the discharge to 'flush out' any biofilm.

**Are there any migratory freshwater fish in the Waitaki River and Whitney Creek or any freshwater habitats, including eels that could have migratory patterns effected by the discharge?**

- 55 There are migratory fish in both freshwater habitats, specifically inanga spawning and eels. As outlined in the evidence of **Ms Coates** at paragraph 23, the waterways will not be affected by the discharge, and so there will be no impact on migratory patterns.

**Which condition links with the applications proposal for the preparation of a lizard management plan?**

- 56 The Lizard Management Plan will form part of the Construction Management Plan. This is included as condition 12 of CRC201188, and further explained by **Ms Coates** in her evidence.

**Which proposed condition gives effect to Mr Don's recommendation that the subject gully should be checked for little penguin presence prior to construction commencing?**

- 57 Condition 16 of CRC201188 as prepared by **Ms Singh** is a condition relation to penguin presence. In addition, condition 7 also includes consideration of penguins when preparing the CMP.

**What condition gives effect to Mr Coutinho's recommendation of a monitoring programme and the specific requirements for that programme?**

- 58 Proposed conditions 15 to 18 of CRC201190 address this.

**Which condition requires the CMP to be prepared prior to construction and submitted to ECan for approval? Does the condition provide enough detail to ensure compliance with this comment in the Application?**

59 Condition 6 – 9 of CRC201188; and

60 Condition 6 – 9 of CRC201190.

61 The Applicant considers that the conditions (and other requirements such as Lizard Management Plan and Erosion and Sediment Control Plan) provide sufficient detail to ensure compliance with the proposal, as it has been described in the AEE and further refined by evidence presented on behalf of ODL.

**What proposed condition of consent requires a traffic management plan to be prepared?**

62 This is a standard component of a CMP. It is not included as part of the condition set, but is standard operating procedure for a CMP, particularly where works are occurring within the road reserve.

**Why has a cultural assessment not been completed yet?**

63 A cultural assessment was completed by Aukaha on behalf of Te Rūnanga o Waihao (dated 13 March 2020), and provided to Environment Canterbury.

**What is the status of the two CMA applications referred to in the application? Are they ready to progress to hearing? Have these two CMA applicants provided their feedback now?**

64 The Applicant understands that the consultation is currently on hold, and no further timeframe has been released.

65 No specific feedback has been provided by the CMA applicants.

**Are any other alternatives viable? E.g. further treatment, storage until conditions suitable to irrigate? Submitters have suggested some alternatives.**

66 As outlined above and in evidence, there are inherent issues with a system in total reliance on irrigation.

67 The evidence of **Mr Duder** and **Mr Lodge** outlines the issues with the proposal for further storage (including a 30ha storage pond). **Dr Wilson** also outlines the considerable further area that would be required for irrigation.

68 Associated issues such as odour from pond storage have not been evaluated, but it is usual practice that dairy processing wastewater should be disposed of promptly to avoid further adverse effects. The wastewater couldn't be in tanks, as too much storage required.

**What is the capacity of the Waimate system? Is there a cost to applicant to join this and if so, what is it. What form of treatment occurs before discharge from this facility and is that better quality than application what are benefits in having single discharge point.**

69 Waimate sewerage treatment is 20 km away and upgradient of the Oceania plant. The population of Waimate is approximately 2,700 and its system is not designed for volumes generated by Oceania or the closer facility by Fonterra at Studholme.

70 **Mr Duder** evaluates this alternative in his evidence.

71 For reasons of cost and practicality the option was discounted.

**Can you please elaborate on why it is considered that connecting to a municipal sewage system is not a feasible option?**

72 See above. Timaru is 50 kms away from the plant – Oamaru is on the southern side of the Waitaki River.

**What neighbours would be affected by a discharge to land and for who long? Please explain with reference to the FIDOL factors.**

73 The adjacent neighbours to the discharge to land are: VLG, Murphy Farms, Ewart Joyce, Roger Lamb, Ian Willan's.

74 Near neighbours are Andrew McFarlane Karen Julian, Geoff Hay/Mark Shefford.

75 If the Commissioners are asking the question of who would be affected by an additional discharge, we cannot answer the question. ODL would have to obtain additional land (through lease, or OIO approved purchase), which would have other neighbours.

76 Fidor factors in relation to an additional land discharge have not been evaluated because a land-based irrigation consent has not been applied for.

**Considering the more than 100 submissions, have the social and cultural costs of discharging to the marine environment been compared against discharge to land? If not can this be done?**

77 From a water quality perspective, **Dr Wilson** has made the comparison and recommended specific further treatment to the ocean outfall.

- 78 The evidence of **Mr Duder** and **Mr Lodge** also evaluate the practical effects of the two options, having regard to the need to meet preferred environmental outcomes.
- 79 In terms of a social evaluation, this has not been completed by a social impact report but the evidence and application are made on the social impacts of both the plant to the community and the social impacts limiting future development of the plant. Consequential impacts on the social and cultural impacts of the ocean outfall have been evaluated in the evidence of Greenaway from a recreational perspective.
- 80 The issue of the number of submitters was not the focus of the evaluation but rather the effects of the application on the environment and mitigation measures that are appropriate for discharge.

**Please provide the dates that the regional policy statements and plans relevant to this application were recently prepared.**

- 81 As outlined at paragraph 25 of **Ms Singh's** evidence:
- 81.1 The Canterbury Regional Policy Statement – 2013;
- 81.2 The Regional Coastal Environmental Plan for Canterbury – 2005; and
- 81.3 Canterbury Land and Water Plan – 2015 (although noting the 2019 public notification of Plan Change 7).

**How does the application provide for the protection of the natural character [character?] of the coastal environment from inappropriate subdivision, use, and development?**

- 82 This is addressed in paragraph 75 of **Ms Singh's** evidence, with particular reference to Policy 13 of the RCPS.

**Is the smallest mixing zone necessary to achieve the required water quality in the receiving environment used to achieve policy 23 of the NZECP?**

- 83 Yes. This is detailed at paragraphs 69 onwards of **Ms Singh's** evidence.

**Through the submission process, it has been identified that there are recreational values that will be impacted upon. What consideration has been given to avoid, remedy or mitigate these? Specifically the undertaking of recreational fishing at the proposed outfall site?**

- 84 As outlined in the evidence of **Mr Greenaway**, **Dr Wilson** and **Mr Coutinho**, onshore fishing will be well outside the mixing zone, and therefore will be unaffected by the outfall.

85 In addition, consent condition 12 of CRC201190 requires beach signage notifying of the outfall if required by relevant authorities to advise users of the CMA of the presence of the outfall.

**How will the application restore or enhance cultural values in accordance with Objective 8.2.4 of the CRPS?**

86 **Ms Singh** has addressed this from paragraph 83 of her evidence. In particular, she concludes that the appropriate interpretation of Objective 8.2.4(2) here is that cultural values are restored (i.e. reinstated to a similar level as they were prior to the implementation of the proposal). Ms Singh then considers the scientific evidence which supports that restoration is met. ODL acknowledges that submissions from tangata whenua will also guide the Commissioners here.

**Can you please provide further details on the recognition that the Regional Coastal Environment Plan provides that industrial discharges are causing localised reductions in water quality as a resource management issue.**

87 **Ms Singh** has addressed this from paragraph 92 of her evidence. In summary, the evidence from ODL is that after reasonable mixing, the discharge will not have any more than minor adverse effects.

**Can you please provide us with details of the consent that has been granted by the Waimate District Council to the planned expansion of Stage 3 of the Factory?**

88 As outlined in the evidence of **Ms Singh** the WDC approved land use consent RM180046 to enable works which form part of Stage 3. The scale of activities authorised by that consent is set out at paragraph 19 of Ms Singh's evidence, and the relevant conditions are at paragraph 20.

89 No other consents have been applied for or granted in relation to Stage 3. Until the wastewater situation is clarified, ODL does not have the capacity for further development.

**Was a full copy of the application provided to Lesley Te Maiharoa – Sykes upon lodgement with ECan?**

90 No. The Applicant provided a summary of the application and details of the consultation with Aukaha. The application was available online, however a copy was never sent directly to Lesley Te Maiharoa – Sykes. The Applicant never received any further correspondence from Ms Te Maiharoa – Sykes beyond an indication that the information would be passed onto the Board for feedback.

**Has the applicant sort [sought?] agreement on how the impacted values will be addressed with mana whanau during both the construction phase and operation of the discharge?**

91 Firstly, ODL notes that agreement is **not** an RMA requirement. Consultation has occurred, as outlined at paragraph 55 onwards of **Ms Singh's** evidence.

92 Consultation was undertaken, however due to time constraints, a further hui was not able to be arranged. ODL considers that the consent conditions as proposed by ODL with the evidence of **Ms Singh** address cultural concerns, where possible (see also paragraph 61 of **Ms Singh's** evidence). ODL accepts that the discharge of wastewater to the coastal environment is inconsistent with the approach sought by Mana Whenua, however the reasons for the discharge, including alternatives, have been discussed extensively elsewhere (see in particular the evidence of **Mr Duder**).

**Other than responding to the concerns of Te Rūnanga o Waihao what has been done to reach agreement with Mana Whenua with regard to their request for consideration of alternatives and impacts on cultural values? How has this been progressed and what were the outcome of the undertaking you provided to meet them in person?**

93 We consider that this question has been answered above, particularly with regard to the evidence of **Ms Singh** and **Mr Duder**.

**As there are more than one Papatipu Runaka that is impacted? How has the applicant progressed mitigating avoiding or remedying their individual concerns? We are aware that the Papatipu Runaka have indicated they wish to voice their specific concerns in detail at the hearing, but how has the applicant sort to deal with these prior to the hearing?**

94 As outlined above consultation has occurred with Te Rūnanga o Waihao in relation to this application.

95 ODL is aware of a submission from Te Rūnanga o Arowhenua Society Inc, however no individual consultation has been sought by ODL in relation to this submission.

**Water quality report and ecological report**

**Can the applicant/officer comment on the likely change in the salinity around the diffusers when discharge occurs? Can further comments be made on the impact on fish species, particularly in regard to the effect on shore-based fishing in the vicinity of the outfall?**

96 Ms Coates addresses these concerns at paragraph 55.6 and 64 of her evidence. In summary, there may be some very localised avoidance by fish species immediately around the diffusers. However, fish are highly mobile and able to remove themselves if necessary.



- 97 Shore based fishing is uncommon in the area. As outlined in the evidence of **Dr Wilson** and **Mr Coutinho** at 50 metres from the diffusers, sufficient mixing will have occurred. Shore based fishing would therefore be at least 250 meters from the mixing zone, and the evidence provided by ODL experts is that any effects would be less than minor at that point.

### **Section 92 response**

#### **Can the officer/applicant comment on what is the likely impact of the discharge of the cleaning chemicals on marine species?**

- 98 Ms Coates has outlined at paragraph 56 that she considers the risk of bioaccumulation and biomagnification to be low, due to the low concentrations of cleaning chemicals being discharged, and the rapid dispersal of the discharge in the dynamic marine environment.

#### **Can the Officer applicant advise what RO retentate is?**

- 99 Reverse osmosis (RO) is a special type of filtration that uses a semi-permeable, thin membrane with pores small enough to pass pure water through while rejecting larger molecules such as dissolved salts (ions). In this context it relates to the treatment of water to be used in the boiler to remove minerals. The RO retentate is the proportion of the water that is retained in the process that contains the extracted minerals.
- 100 Therefore the reporting officer is correct that RO retentate is the concentrate left over from the Reverse Osmosis process.

### **General questions**

#### **Can Officers and applicant advise from the consultation meeting 28th November 2020 in Waimate, specifically what outcomes arose to provide opportunity to avoid or mitigate impacts on the environment?**

- 101 The conditions as proposed by ODL with the evidence of **Ms Singh** address many of the concerns raised at the consultation meeting. However, the critical issue of the appropriateness of the ocean outfall, when compared to additional land based discharge, was not able to be agreed between parties to the consultation meeting. The ODL evidence, and this response, outlines the reasons in detail for an ocean outfall application.

#### **The application implies the operation / discharge is seasonal at present, but will become year round if consent is granted. Can the applicant confirm this is correct, and indicate how production / wastewater volumes will generally vary over the year?**

- 102 The volumes of treated wastewater are seasonal and strongly correlate with the volumes of milk processed. (The processing of milk requires the washing of plant. The more milk

processed the longer the plants operate. The longer the plants operate the more CIP's (cleaning in place) are carried out. Through the peak of the season the main variation in volumes of CIP is the type of products being made – some products require shorter runs and more CIP's.

- 103 The ODL operation is now year round with the installation of a UHT plant in late 2017. This plant is the only plant to operate for most of June and July.
- 104 Volumes of treated wastewater generated in the plant in the last full operation season are shown below.

Month	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May
Volume <sup>3</sup>	28,169	23,982	49,402	5,9273	65,915	63,702	5,6712	63,643	64,147	57,838	48,427	54,644

**Can the Applicant and officers advise are all proposed conditions agreed with? If not, please explain why.**

- 105 The Applicant has included a tracked change version of the conditions as proposed in the section 42A report. These are attached to the evidence of Ms Singh. The reasons for disagreement are included in the expert evidence provided by the Applicant.

**Can all experts highlight any matters of disagreement in terms of conclusions in the s42A and associated expert s42A report, and the recommended conditions?**

- 106 We have interpreted this question as relating to agreement between fields of expertise, rather than requiring different areas of expertise to assess whether the appropriate weight has been put on different areas when determining the conditions. That is a matter for the Commissioners.
- 107 As outlined above, the Applicant has included tracked change conditions which are informed by the expert evidence the Applicant has received. Reasons for the disagreement are set out in the relevant expert reports.