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11th July 2026

Otago Regional Council
Private Bag 1954
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Attention: Hannah Goslin
Consultant Consents Planner

Memorandum: **Technical Review of an Application by Queenstown Lakes District Council to Discharge Contaminants to Air (Odour) from the Queenstown Wastewater Treatment Plant and Outfall to the Kawarau River**

Preliminary

Queenstown Lakes District Council (**QLDC**) has applied for consent to discharge odour to air from the Queenstown Wastewater Treatment Plant (**WWTP**) and from a proposed treated wastewater outfall to the Kawarau River. The outfall is intended to provide a long-term solution for wastewater disposal, replacing the current emergency discharge to the Shotover River.

Stage 3 upgrades to the WWTP have now been completed, resulting in improvement to treated wastewater quality. Tertiary filtration is proposed to further reduce suspended solids in the discharge. The three former oxidation ponds are being decommissioned, with two ponds retained as calamity ponds for raw and treated wastewater. Sludge removal from Ponds 2 and 3 is yet to occur.

Otago Regional Council (**ORC**) has commissioned Specialist Environmental Services Limited (**SESL**) to undertake a technical review of the assessment of effects of the odour discharge. This brief memorandum report reviews the assessments prepared by Landpro and Air Quality

Consulting NZ (**AQCNZ**) and specifically responds to questions raised by the ORC processing planner.

The technical review has been undertaken by the author, John Iseli, on behalf of SESL. I have over 32 years of experience in the field of air quality in New Zealand and have undertaken numerous assessments and reviews relating to discharges to air from WWTPs and waste management processes. I confirm that the findings expressed are my own conclusions and I have not delegated review work to any other party.

I visited the WWTP site and the proposed Kawareau outfall location on Wednesday 8th July 2026. I was accompanied by Scott Paterson, QLDC Project Manager.

Question 1. Is the technical information provided in support of the application robust, including being clear about uncertainties and any assumptions? Yes, or no. If not, what are the flaws?

AQCNZ undertook a desktop qualitative assessment of odour effects to support the application. The assessment contained limited detail regarding odour mitigation methods and site management at the WWTP. Rather, the assessment focussed on expected odour effects from a well operated plant of this type, bearing in mind the separation distance to sensitive receptors, local wind conditions and the recent complaints record.

The assessment analysed the **FIDOL** (frequency, intensity, duration, offensiveness, location) factors, a standard approach for this type of discharge. I consider that the assessment is generally consistent with guidance in the Ministry for the Environment's Good Practice Guide for Assessing and Managing Odour (2016).

I have reviewed the ORC compliance reports for the WWTP from April 2025 and June 2024. The reports indicate overall good compliance since January 2024, with no recorded odour complaints. However, upgrade works (desludging of Pond 1) resulted in odour complaints in late 2023. During December 2023, 18 complaints were received and ORC officers confirmed odour on 17th and 18th December, issuing infringement notices.

The desludging of Ponds 2 and 3 has potential to cause similar odour effects and will need to be carefully managed. I consider that further information should be requested regarding the proposed sludge removal process. I also consider that an updated Odour Management Plan (**OMP**) should be provided that addresses this matter and also includes contingency measures in response to plant upset conditions.

Subject to the provision of adequate further information regarding pond sludge management and the OMP, I consider that the assessment of odour effects from the WWTP is sufficiently robust.

With regard to odour from the outfall discharge, I agree with AQCNZ that objectionable or offensive odour is unlikely to be experienced in relation to the outfall discharge. The proposed standard of wastewater treatment is good (in terms of odour potential) and I conclude that the assessment is sufficiently robust. I agree that the proposed outfall is expected to have a low odour potential and odour from this source is unlikely to be detectable at dwellings or commercial receptors. There is potential for mobile receptors (recreational and commercial)



to be exposed to odour immediately adjacent to the outfall (within 50m). However, any odour is expected to be of low intensity, have an earthy/musty character, be localised and of typically brief duration.

Question 2. Are there any other matters that appear relevant to you that have not been included? Or is additional information needed? Please specify what additional info you require and why [please explain].

As discussed in response to Question 1, I consider that the following additional information should be requested.

1. Please describe the proposed sludge removal process for Ponds 1 and 2, including odour control measures.
2. Please provide an updated Odour Management Plan that addresses pond desludging and also includes contingency measures in response to plant upset conditions.

Question 3. If granted, are there specific conditions that you recommend should be included in the consent? Beyond those that have been proposed in Appendix O.

The conditions proffered in Appendix O to the AEE are generally appropriate, subject to the following amendments.

Condition 5.

Clause (a) should apply to any complaints received regarding odour beyond the boundary of the WWTP, rather than 50m from the WWTP.

This change aligns with standard practice where assessment of objectionable or offensive odour is undertaken beyond the WWTP site boundary.

Condition 8.

The no objectionable or offensive odour standard should apply both at the boundary of the WWTP at the outfall/pipe.

While low intensity odour may be detectable within 50m of the outfall, the assessment concludes that this odour will not be offensive or objectionable. Given the standard of wastewater treatment now proposed, I agree.

Question 4: Do you agree with the Applicant's assessment of effects of the discharge of odour?

AQCNZ undertook a FIDOL assessment of odour effects caused by the activity. The assessment took into account local meteorology, receptor locations and recent odour complaint records. Subject to further information regarding the management of pond desludging and the OMP, I agree with the conclusions of the AEE regarding the frequency and magnitude of adverse odour effects likely to be experienced from normal operation of the WWTP and outfall.



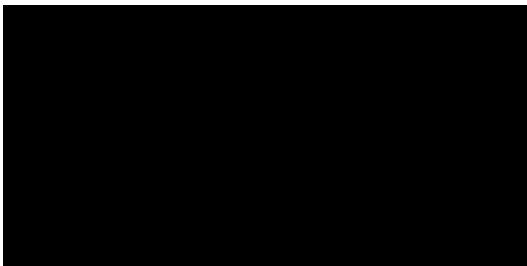
Question 5. Have the cumulative effects of the air discharge activity been appropriately assessed? Is there any additional information required from the applicant to adequately assess these effects?

Cumulative effects have been assessed by AQCNZ. I agree that the proposed outfall and existing WWTP odour sources are separated by sufficient distance such that cumulative effects will not be significant. I also agree that odour emissions from the outfall are expected to be minor, relative to emissions from the WWTP.

I consider that cumulative odour effects have been appropriately assessed.

Please contact me if you require any clarification of the above matters.

Regards



John Iseli
Director, Principal Air Quality Consultant

