

Otago Regional Council
70 Stafford Street
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5 June 2019

Attention: Charles Horrell

Dear Charles

RM19.051 QLDC Wastewater Network Consent S92(1) Response

Thank you for your letter dated 14 May 2019 requesting further information pursuant to Section 92(1) of the Resource Management Act (the Act). This letter sets out our response to the questions raised. For ease of reference, the headings and numbers below correspond to the headings and numbers set out in your letter.

1. Monitoring Data

As described in the consent application, overflows in the Queenstown Lakes District occur at random, both in terms of frequency and location. These overflows are predominantly caused by blockages and breakages in the system.

During a conversation with Michael Greer of Aquanet Consulting Limited on 13 May 2019, it was agreed that data showing the frequency and location of past overflows held by QLDC should be provided for the purpose of confirming the random nature of the overflows as described in the application. Additionally, this will also provide context to the supporting technical assessments.

The **attached** spreadsheet provides a data set of overflow events from 2015 through to 30 November 2018. The data set provides the date, location, cause, whether the overflow reached water and response time and service restoration time of each event.

Inconsistencies in the reporting date and time of an overflow to service restoration date and time are due to QLDC contractors finding an overflow and responding to it either before it is called in by the public or logged into the QLDC system. Where the data for an overflow is incomplete, shaded in blue, this is likely due to events being recorded across multiple systems by different organisations (e.g. contractors or QLDC) which has resulted different levels of information being recorded and missed information.

The data set shows an improvement in the detail of overflow event reporting from 2015 to 2018. Specifically, the data supports the random nature and inconsistency of overflows occurring in terms of location and frequency which additionally supports the risk assessments and conclusions of both the NIWA Microbial Risk Assessment and the Ryder Environmental Ecological assessment submitted with the application.

The **attached** spreadsheet also includes incident data, shaded in green, for events that relate to private infrastructure (i.e. not owned or operated by QLDC), which were investigated but determined not to be an overflow, or were a blockage in a pipe that did not result in an overflow. These events have missing or inconsistent data because less information is recorded for events that do not result in an overflow from the QLDC system. However, this data has been included as it further demonstrates the random nature of blockages and incidents in wastewater infrastructure.

2. Incident Response Process

Existing response protocols

Section 6 of the NIWA Microbial risk assessment undertaken by Dr Neale Hudson recommends a number of response processes to be followed in the event of an overflow.

As detailed in the application the QLDC incident response process has been summarised into a response overflow flow chart. Through its contracts QLDC requires their operations and management contractors to have procedures in place which they need to implement if an overflow occurs. The flow chart summarises these response requirements.

The response actions required are currently detailed across a number of documents. QLDC does not have one standalone document that details the existing incident response process and all of Dr Hudson's recommendations. That said, the current response process does already include the majority of Mr Hudson's recommendations. We comment on the extent to which the recommendations are already addressed by the existing response process below. The commentary on Dr Hudson's recommendations provides an explanation on how each of the recommendations are currently addressed within the incident response process. In the instance QLDC do not support the recommendation justification is provided.

In addition, QLDC propose to include a further proposed condition of consent to require an updated procedural document that includes both the current incident response processes and of several of Dr Hudson's recommendations to be prepared and submitted to Council within 6 months of consent being granted. The proposed condition is set out below in Section 3 of this letter.

Commentary on recommendations

We have reviewed the incident response plan of QLDC, and we consider that:

1. *It is suitable as a high-level strategy document, but that considerable additional detail should be provided before it can be considered sufficiently robust.*
2. *It should incorporate the term "adaptive management" as a descriptor, and*
 - i. *the more detailed plan that should be associated with it should be implemented in an adaptive management framework*
 - ii. *the plan should also be described as a "living document", and should be revised or modified to allow QLDC to better respond to future events.*

Comment: The existing incident response procedure is documented in greater detail across a number of documents. A condition of consent is proposed to require QLDC to prepare one combined procedural document within 6 months of consent being granted.

"Adaptive management" is usually used in situations where a lesser scale of activity is consented and monitored with the expectation that if the monitoring results are favourable the activity will be able to scale up. Discussions with Dr Hudson have confirmed that in referring to "adaptive management" he means allowing for flexibility of the response process for each overflow as the receiving environments and conditions of each overflow differ from the last. Currently, QLDC operations and management contractors assess and respond to each overflow on a case by case basis in a flexible manner to achieve the most effective and

efficient remediation of an overflow event. QLDC intend to use the term 'flexibility' in the procedural document as opposed to "adaptive management", which as noted above has other environmental connotations not intended by Dr Hudson.

3. *The plan should also explicitly make reference to Section H of the MfE/MoH Guidelines, where the principles underlying a pollution-response strategy are described, and detailed information and practical guidance is provided. In part this will allow these response plans to be customised to meet local conditions and community expectations. One area where immediate further attention could be given is with regard to post-discharge monitoring.*

Comment: The existing incident response and monitoring processes are based on Section H of the MfE/MoH Guidelines. The proposed combined document will also be based and refer to Section H of the MfE/MoH Guidelines.

- i. *A suitable event-related microbiological water quality monitoring programme should be developed in association with other agencies, addressing aspects such as the sampling locations, frequency of sampling, and specific laboratory tests will be agreed.*

Comment: The current response process requires water sampling and monitoring in accordance with Section H of the MfE/MoH Guidelines. As described above each overflow incident differs from the previous in terms of receiving environments and the nature of the overflow and therefore requires flexibility in the way it is responded to and monitored. Therefore, having one event specific monitoring programme for all overflow incidents is not consistent with Dr Hudson's previous recommendation of retaining flexibility. Additionally, an event related monitoring programme developed in conjunction with other agencies would likely be difficult to implement not only due to the random nature of the overflows but because of the limited resources within those agencies located in the district.

It is therefore considered that the current monitoring programme, consistent with Section H of the MfE/MoH Guidelines, be retained within the new procedural document. Notification of incidents are provided to Otago Regional Council and the Ministry of Health following an event and this procedure is proposed to be retained.

- ii. *In some circumstances it may be possible to utilise continuous water quality measurements of FIB surrogates, or other water quality variables to provide supporting information.*

Comment: Given the random nature of the overflow incidents using continuous water quality measurements of FIB surrogates or other water variables will not add any value to the existing monitoring and sampling processes already in place. This is because overflows occur randomly and at different locations across the district and it is not considered possible to have continuous monitoring equipment to measure FIB surrogates at every possible overflow location. Additionally, by the time QLDC contractors arrive at an overflow event, where wastewater has entered water, setting up continuous monitoring equipment at that time would defeat the purpose of continuous monitoring. The current water sampling and monitoring procedure is therefore considered to better suit the random nature of these overflows. Subsequently, this is a recommendation by Mr Hudson that is not considered to improve the incident response process over and above what currently exists in terms of water quality sampling and monitoring.

- iii. *The water should be tested at the agreed frequency and locations until the water quality is back to acceptable standards.*

Comment: As shown on the overflow response chart receiving water is tested in accordance with the MfE Guidelines until the water quality is back to acceptable standards.

- iv. *Although limited water quality data exist for most of the Queenstown Lakes District, data derived from the recreational water quality monitoring programme operated by ORC provides approximately 25 water quality results annually for several sites in the region.*
- v. *These data are accessible from the LAWA website¹¹ and may be suitable for defining “typical water quality” for some parts of the Queenstown Lakes District. Graphical summaries of recent recreational monitoring derived from the LAWA website are included in Appendix D.*

Comment: iv. and v. are not considered to be recommendations but statements that relate to water current quality in the region.

3. Proposed Condition

As discussed above an additional condition is proposed to provide the opportunity for a one combined procedural document to be created and adopted by QLDC as part of this consent process. The proposed condition is set out below:

An updated incident response procedure document shall be prepared by QLDC and issued to its wastewater network operations and maintenance contractors within 6 months of consent being granted. A copy of the incident response procedure along with confirmation of its issue to contractors shall be provided to the ORC for its information within 48 hours (Monday – Friday) of issue to QLDC contractors. The incident response procedure shall:

- (a) include the existing incident response process and be updated to refer to Section H of the MfE Microbiological Water Quality Guidelines for Recreational Water; and
- (b) require contractors to respond to each overflow with flexibility as recommend by the NIWA *Wastewater overflow discharge consent – Queenstown Lakes District Council Microbial Risk Assessment* dated April 2019 submitted with the application.

Yours sincerely,



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on behalf of

Beca Limited

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