



6 June 2018

Edward Prince
Resource Use Group
Waikato Regional Council
Private Bag 3038
Waikato Mail Centre
Hamilton 3240

Dear Edward,

RE: LETTER OF DIRECTION – Waikato WTP Audit 2018

I am writing in response to your Letter of Direction for Waikato Water Treatment Plant (**WTP**) dated 2 May 2018, covering the period 1 July 2015 to 30 June 2017. Please be advised that Watercare Services Limited (**Watercare**) takes its statutory responsibilities very seriously. This includes compliance with our Resource Consents. While we agree that a partial compliance status must be addressed, Watercare believes that further discussion is needed to clarify, confirm and address the points raised by the Waikato Regional Council (**WRC**).

Watercare has implemented a number of improvements and actions to address the partial compliance issues with resource consents granted by the WRC. Watercare's response to the issues raised and further information requested by the WRC, are detailed in attached in Tables 1, 2, 3 and 4.

Watercare is committed to reducing its impact on the environment and improving the quality of water in the Waikato River. Watercare has made concerted efforts to improve operational processes to ensure that controls are appropriate and implemented, to minimise environmental impact. Significant work has been undertaken to review operational procedures and ensure that these procedures are adhered to at all times.

An upgrade of the chemical facilities at the Waikato WTP is in the early design phases and targets the implementation of additional engineering controls to further reduce risks associated with our chemical storage and handling systems. A key requirement of these upgrades is to ensure ongoing compliance with our statutory obligations and the mitigation/minimisation of potential adverse environmental impacts.

Watercare would like to propose that a meeting is arranged to clarify points raised by the WRC and discuss actions taken/planned. We would also appreciate the opportunity to discuss the water abstraction conditions, in particular, the net take and the 7-day rolling average flow at Rangiriri. Nolwenn Lagadec will make contact with you to discuss potential meeting times/locations.

Please contact me directly if you require any further information or clarification.

Yours faithfully,

Priyan Perera
Operations Manager – Water Supply
Watercare Services Limited

Table 1: Response to the actions listed in the Site compliance report and Letter of Direction

Resource consent	Condition Number	Consent condition	Action Required	Status
AUTH120246.01.02	3	The consent holder shall be responsible for all contracted operations relating to the exercise of this resource consent, and shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.	Please ensure that all corrective actions identified in the ICAM Investigation Report #9628760 are implemented to reduce the likelihood of a re-occurrence of this type of incident.	A number of corrective actions have been completed. Full details are described in tables 2, 3 and 4.
AUTH120246.01.02	6	Any discharge to the Waikato River shall comply with the following limits: i) pH of the discharge shall be between 6 and 9 pH units; ii) total residual chlorine of the discharge of less than 0.5 grams per cubic metre; iii) suspended solids of the discharge of less than 50 grams per cubic metre iv) Total soluble aluminium of the discharge of less than 5.0 grams per cubic metre	Investigate and take action to improve the quality of the discharged process backwash to within compliant levels	Review of the training material has been carried out and all operators retrained. Signage has also been reviewed and improved. Since this time there have been no further instances of the concentration of soluble aluminium in the discharge exceeded the consented limit. The low pH result obtained was due to a failure to follow maintenance activity procedure. This issue has been addressed.
AUTH137722.01.01	4	The total combined instantaneous take rate pursuant to this resource consent and resource consent 960089 must not exceed 2,450 litres per second.	Please investigate and take action to reduce the abstraction rate to within compliant limits.	Consent 137722 was granted in February 2017 providing for a maximum instantaneous flow of 2450 l/s. The maximum flows abstracted from the Waikato River have not exceeded this level. Watercare believes that this warrants further discussion with WRC staff to confirm consent and current compliance status.
AUTH137722.01.01	5	Water must not be taken pursuant to this resource consent when the Waikato River 7-day rolling average flow at Rangiriri (Waikato Regional Council site number 1131.117, map reference NZTM 1788389 E 5855059 N), as determined by the Waikato Regional Council, is less than 328.3 cubic metres per second.	Please explain the reason for the spikes in take volume during restricted water take conditions around 7 December 2015, 21 March 2016, 15 June 2016 and 26 July 2016	Consent 137722 was granted in February 2017 after the dates of the events raised by the WRC. The graph provided by WRC displays flow rate over a 15 minute period in m3/day as opposed to daily net take. This has been discussed with WRC and a calculation added to convert flow rate to volume taken over a 15 minute period. A request

Resource consent	Condition Number	Consent condition	Action Required	Status
				<p>(No # CSR0001254) has been raised with Watercare's ECS team to create a new tag that records the net take volume over a 15 minute period. This will make the reporting of this condition clearer and avoid any confusion in the future. Figures 1 displays the daily net take for the compliance reporting period and shows that no water was taken above the 175,000 m³ limit.</p> <p>Watercare believes that this warrants further discussion with WRC staff to confirm consent and current compliance status.</p>
AUTH960089.01.03	3	<p>The maximum rate of abstraction:</p> <p>1) Rate of abstraction shall not exceed 2000 litres per second; and</p> <p>Net take volume – being the volume taken pursuant to this resource consent less the volume discharged into the Waikato River pursuant to resource consents 120246, 960101 and 960091 shall not exceed 150,000 cubic metres during any 24 hour period.</p>	Take action to ensure that discharges remain within compliant limits.	<p>Condition 3 refers to abstraction. The maximum abstraction flow rate was exceeded twice during the reporting period. These exceedences were associated with abstraction system capacity confirmation testing and should not reoccur.</p> <p>The WTP was compliant with the total daily abstraction limit during each occurrence.</p>

Table 2: Status update on corrective actions taken following HFA overflow

Recommended Actions following ICAM investigation	Hierarchy of Control	Responsibility	Status	Timeframe
High High Alarm to be activated for HFA tanks at Watercare.	Engineering	Watercare	Complete	
Faulty Tank 1 telemetry gauge to be replaced	Engineering	Watercare	Complete (all chemical tanks display have been replaced)	
Check materials of construction for compatibility with chemicals in bunds/tanks	Engineering	Watercare	Complete	
Out of Service vs out of operation - Check HH alarm operation for both states (tbc on 20th July 2016. Ensure that Cold state default start of DNS has HH alarm activated	Engineering	Watercare	Complete	
Review Risk Assessment for CoDe functionality with the aim to make CoDe safe fill functionality mandatory for all fill calculations.	Admin	IXOM	In progress- Identified risks in automating delivery volumes. Label in the field by delivery point displays "Safe Fill Level 10,000L=95%"	Additional risks have been identified, with the proposed system automation. Warrants further risk assessment prior roll-out.
Supplier procedures to be reviewed and measures put in place to ensure the following is in place A) Version control B) Lay out is optimised for driver use. Actions from review to be entered in Velocity for implementation	Admin	IXOM	Complete	
Period testing to be put in place for high level alarms, bund alarms and warning lights	Admin	Watercare	Complete	
Ensure procedure updates are provided to Watercare and Transport company – an acknowledgment/sign off is required.	Admin	IXOM	Complete Ensure sign off is documented	
Pre delivery physical sign off of delivery quantity for each tank to be implemented at all Watercare sites. Operator and Driver agree and document tank level before delivery and planned delivery volume in writing. Watercare procedure to be update to include this step.	Admin	Watercare	Procedure updated. Watercare Operators reminded delivery supervision is to be direct, in the field, as far as practicable. To be included in IXOM drivers induction.	
Update Supplier procedure to require check and sign off of initial tank level and planned fill level for each tank. In addition, what constitutes supervision of the delivery needs be clearly defined.	Admin	IXOM	Complete	

Table 3: Following actions are based on internal discussions, and review of the incident with Waikato Regional Council.

Additional recommended actions	Status	Timeframe
Notify the Council immediately if an incident occurs, within 5-7 days in writing. This is currently not specified in the existing consent, however this is expected practice. New discharge consent will be amended to be more specific.	Acknowledged by Service Delivery and notified to Consents team	
Repair equipment in the bund corroded by HFA.	Complete	
Investigate design improvements. Look into minimising single points of failure and ensuring chemicals cannot gravitate to the river. Define scope of work for chemical plant upgrade included in 175MLD upgrade project.	Complete	
Update spill procedure (2009). Ensure consistent with Corporate Incident Management Plan as well as with Health and Safety Emergency Response Management Plan toolkit.	Complete. Spill procedure training material also updated.	
Eliminate complacency around bund alarms. As rain enters the bunds, the alarms frequently trigger.	Complete. Incorporated in new chemical area concept design.	
Modify practices. Wrong practice has been adopted of placing chemical tank in "Out of service" mode, as "Standby" is not an available option.	Complete. To be regularly audited.	
Additional recommended actions	Status	Timeframe
Improve communication on faults. Different operators were aware of different faults and thought some had been fixed.	Complete	
Ensure maintenance takes place in a timely manner.	Ongoing. To be regularly audited.	

Table 4: The following actions were identified during the ICAM investigation as potential improvements requiring further investigation:

Potential improvements to be further investigated	Hierarchy of Control	Responsibility / Assigned to	Status	Timeframe
Consider the installation of a new alarm on the overflow pipe.	Engineering	Watercare	Covered during preliminary HAZOP on 15/12/2016. Found not to be an appropriate mitigation.	
Where tank locations are not clearly identified/add Aerial maps of customer facilities showing the location.	Admin	IXOM	Revised and considered not necessary. Driver is to follow SOP.	
Watercare to consider including site orientation for drivers in Induction program	Admin	Watercare	Induction material reviewed.	Next driver induction booked in May 2018.
Establish feasibility of separate sensors for alarm and telemetry	Engineering	Watercare	Covered during preliminary HAZOP on 15/12/2016.	
Establish feasibility of installing a drop pipes in HFA tanks	Engineering	Watercare	Covered during preliminary HAZOP on 15/12/2016.	

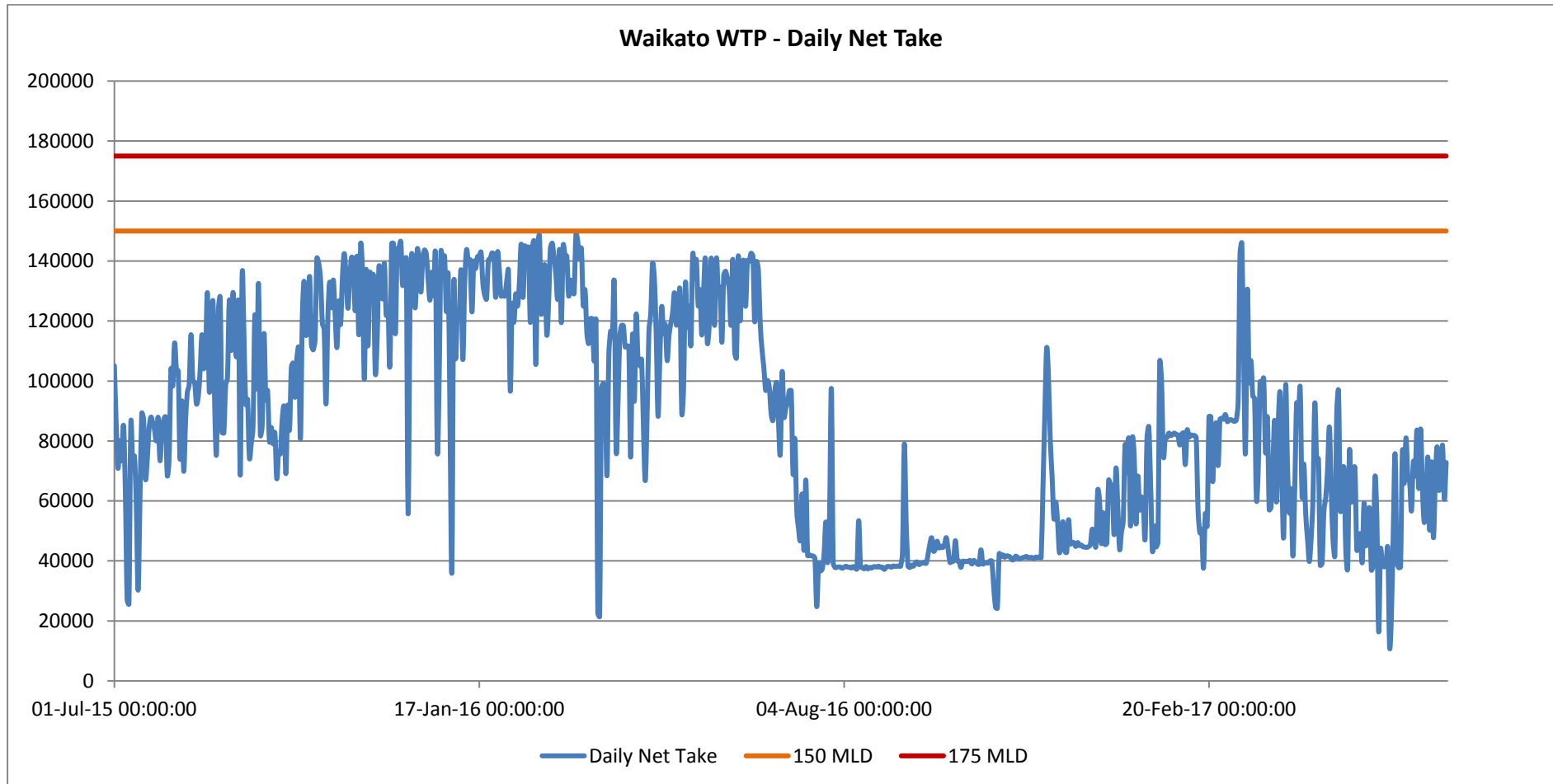


Figure 1: Waikato WTP - daily net take July 2015 - June 2017