

**IN THE MATTER** of the Resource Management  
Act 1991

**AND**

**IN THE MATTER** Plan Change 1 – (Waikato and  
Waipa Catchments) to the  
Waikato Regional Plan.

---

**PRIMARY STATEMENT OF EVIDENCE OF GILLIAN MARY CROWCROFT  
ON BEHALF OF MERCURY NZ LIMITED (SUBMITTER NUMBER 73182)**

**HEARING BLOCK 3 – PARTS C7-C9**

**5 July 2019**

---

## 1. EXECUTIVE SUMMARY

- 1.1 I have been engaged by Mercury NZ Limited (**Mercury**) to provide planning evidence in relation to its submission on Plan Change 1 to the Waikato Regional Plan (**WRP, PC1**). Mercury has interests in the Waikato River catchment as an electricity generator and operator of the Waikato Hydro Scheme. Mercury also operates geothermal power stations in the Waikato Region (Rotokawa, Nga Awa Purua, Ngatamariki and Mokai). These rely on freshwater from the Waikato River for operational and drilling purposes.
- 1.2 I consider that the collaborative process used by the Healthy Rivers project partners (to identify values and develop objectives, policies, and methods for improving water quality in the Waikato and Waipa rivers) is an example of good planning practice. I am aware that Mercury supports continued collaboration to implement the policies and methods of PC1.

### Policy 7

- 1.3 I support the Council Officers' (**Officers**) recommendation to delete Policy 7 because, as it was drafted, the policy read more as an implementation method than a policy. However, I consider there is merit in retaining the substance of Policy 7 and therefore, in my evidence I propose amending implementation method 3.11.4.7 to reflect the intent of Policy 7.

### Implementation Methods

- 1.4 The Officers recommend deleting all PC1 implementation methods. They question the value and future relevance of the implementation methods through the 10 year plus lifetime of the plan. The Officers also point out that some methods could be seen to be "business as usual" for the Waikato Regional Council.
- 1.5 I agree, to an extent, with the Officers and I do not have issue with the deletion of implementation methods 3.11.4.1, 3.11.4.6, 3.11.4.8, 3.11.4.9 and 3.11.4.11.
- 1.6 I do not, however, agree with the Officers' recommended deletion of implementation methods 3.11.4.5, 3.11.4.7 and 3.11.4.10. In my opinion,

these are not business as usual for the Waikato Regional Council and they do add value and relevance to PC1.

- 1.7 These methods recognise that research, data and information is needed as the foundation for the future plan changes that will be needed to achieve the long-term restoration and protection of water quality in the Waikato and Waipa catchments. This is especially relevant given the Collaborative Stakeholder Group has grappled with the lack of available research, data and information that is necessary to enable robust attribute target setting throughout the catchments.

#### **Part D**

- 1.8 Mercury's primary submission included points on PC1's consequential amendments to the WRP. It is important here that I raise that Mercury's submission on Part D has mistakenly been left out of the Officers' assessment.
- 1.9 I support the submission points raised by Mercury on PC1's consequential amendments. In most instances the proposed amendments are minor corrections.
- 1.10 The Officers do not make reference to the consequential amendments to WRP Rule 4.2.10.1 (Permitted Activity Rule - Discharge and Intake Structures) in the Section 42A report. In its operative form, Rule 4.2.10.1(n) references water management classes that set out, in Section 3.2.4 of the WRP, the relevant standards and limits for specific classes of water. These standards are specific and so the test of meeting, or not meeting, the standards is relatively straightforward.
- 1.11 PC1's proposed consequential amendment to Rule 4.2.10.1(n) introduces subjectivity by referencing the need for consistency with objectives in Chapter 3.11. In my opinion, this subjectivity is inappropriate and unnecessary for a permitted activity rule. For this reason, I recommend that the proposed consequential amendment to rule 4.2.10.1 (n) is rejected.

## 2. INTRODUCTION

### Qualifications and experience

- 2.1 My full name is Gillian Mary Crowcroft. I hold the position of Environmental Lead for Harrison Grierson Consultants Limited, a multi-disciplinary consulting company with eight offices throughout New Zealand.
- 2.2 I have the qualifications and experience set out in the statement of evidence I presented at the Block 1 and 2 hearings.

### Expert witness Code of Conduct

- 2.3 I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and that I agree to comply with it. While this Code of Conduct has been developed by the Environment Court, its principles are applicable for expert witnesses at any kind of hearing. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise.

### This evidence

- 2.4 I have been engaged by Mercury NZ Limited (**Mercury**) to provide planning evidence in relation to its submission on Plan Change 1 to the Waikato Regional Plan (**PC1, WRP**).
- 2.5 I note that section 2 of Mercury's submission provides an outline of its background and interests in the Waikato Region. A description of the company and its interests in the region is provided in my previous evidence.
- 2.6 I have reviewed the Council Officers' (**Officers**) Hearing Block 3 Section 42A report. In my evidence, I use the structure of the Officers' report to comment on Mercury's submission points and whether they have, or have not, been addressed satisfactorily from my perspective.
- 2.7 All proposed changes to the PC1 provisions sought in this evidence, where it differs from the Officers' Block 3 "Track Change" version, are set out in Appendix 1.

### 3. PLANNING EVIDENCE

#### Policy 7

- 3.1 In its notified form, PC1 makes it clear throughout the preamble and provisions that the long-term restoration and protection of water quality in the Waikato and Waipa Rivers will be intergenerational and will require a staged approach. This is an important premise because it signals that we are at the start of a long restoration journey that will extend well beyond the lifetime of this plan change - with several more plan changes likely to be required to enable achievement of the primary objective. PC1 will only go some way to enabling water quality improvement. Beyond this plan change through to 2096, further reductions in diffuse sources of contaminants to the rivers will be necessary.
- 3.2 Policy 7 indicates the direction of future allocation frameworks and plan changes. The Officers suggest that Policy 7 reflects the future allocation framework intent of the Collaborative Stakeholder Group (**CSG**) as a compromise for not landing on an agreed framework in PC1. Submissions received on Policy 7 confirm the discord on the topic of future allocation (99 support, 76 oppose and 46 oppose with amendments). I support the Officers' concern that Policy 7 and the associated implementation method are "at best" a statement of intent. Future plan changes will need to assess allocation mechanisms based on the available research, data, information and technology of the day and not be prejudged as to the best approach. For these reasons I support the deletion of Policy 7.
- 3.3 However, I suggest that the intent of Policy 7, which is drafted more as a method than a policy, would be better suited to an implementation method to signal that PC1 on its own will not achieve the plan objectives nor the Vision and Strategy for the Waikato River. I recommend that implementation method 3.11.4.7 is revised to include the intent of Policy 7. The redrafted implementation method will enable research and collection of data and information to address the current uncertainty in setting a broader range of attributes and an allocation framework.

3.4 I therefore propose the following:

**3.1.4.7 Information needs to support any Preparing for future allocation plan changes**

~~Gather information and commission appropriate scientific research to inform any prepare for future framework for the allocation of diffuse discharges including plan changes by:~~

- ~~a. Implementing processes that will support the setting of property or enterprise level diffuse discharge limits in the future.~~
- ~~b. Researching:
  - ~~i. The quantum of contaminants that can be discharged at a sub-catchment and Freshwater Management Unit scale while meeting the Table 3.11-1 water quality attributes targets.~~
  - ~~ii. Methods to categorise and define 'land suitability'.~~
  - ~~iii. Tools for measuring or modelling discharges from individual properties, enterprises and sub-catchments, and how this can be related to the Table 3.11-1 water quality attribute targets.~~~~
- a. Collecting data to enable setting of targets for attributes at the sub-catchment and Freshwater Management Unit scales.
- b. Collecting information about current land management and discharges.
- c. Undertaking research to understand the spatial variability of land use and contaminant losses.
- d. Developing modelling tools to estimate contaminant discharges.

**C4.2 Implementation Methods**

3.5 The Officers recommend deleting all PC1 implementation methods. They question the value and future relevance of the implementation methods through the 10-year plus lifetime of the plan. The Officers also point out that some methods could be seen to be “business as usual” (BAU) for the Waikato Regional Council.

3.6 The Officers’ analysis separates the implementation methods into at least two categories: (1) those that reflect Waikato Regional Council BAU and (2) those that have questionable value and/or relevance. I discuss each of these groups separately below.

- 3.7 The BAU category, in the context of PC1 implementation methods, can be viewed as the methods WRC are currently undertaking. However, what is done today gives no certainty that these actions will be continued tomorrow or over the plan lifetime. In my view, the inclusion of these methods in the plan by the CSG indicates that the community wanted some certainty about those actions continuing in the future.
- 3.8 I see little value in implementation methods that prescribe an action already required by statute (for example, the Local Government Act 2002 applies to method 3.11.4.6 – Funding and implementation). In my assessment implementation methods 3.11.4.1, 3.11.4.6, 3.11.4.8, 3.11.4.9 and 3.11.4.11 fit this criterion and I have no issue with their deletion.
- 3.9 Implementation methods 3.11.4.5, 3.11.4.7 and 3.11.4.10, in my opinion, are not BAU and they do add value and relevance to PC1. These methods recognise that research, data and information is needed as the foundation for those future plan changes that will contribute to achieving the long-term restoration and protection of water quality of the Waikato and Waipa Rivers.
- 3.10 Section C.2.2.8 of the s32 Report describes the process taken towards development of the attributes in PC1. It refers to the recommendation and consideration of “attributes that were appropriate, measurable and for which the relationship between actions on the land and the attribute in water could be described”. Lack of data was a limiting factor for setting potential attributes for all Lakes Freshwater Management Units (**FMUs**). I understand that setting a broader suite of attributes in the Waikato and Waipa sub-catchments has also been constrained for similar reasons.
- 3.11 In my opinion, PC1 implementation methods that will help to address some of the knowledge gaps that the CSG have had to work with in drafting PC1 should be included. For this reason, I oppose the deletion of these methods 3.11.4.5, 3.11.4.7 and 3.11.4.10 and seek that they are retained.
- 3.12 Specifically, I consider that:
- (a) Method 3.11.4.5 should be retained without amendment, other than minor changes to reflect the final form of the policies, particularly Policy 9 on sub-catchment mitigation planning, co-ordination and funding.

- (b) Method 3.11.4.7 should be substantially revised for the reasons explained above in paragraph 3.1 to 0, with revised wording set out in paragraph 0.
- (c) Method 3.11.4.10 should also be retained. However, I recommend that clause (b) of the method should be amended in line with the Hearing Block 1 evidence of Mr Dean Miller (evidence dated 15 February 2019 on behalf of Mercury). The reason for this change is set out in Mr Miller's Hearing Block 1 evidence (paragraphs 4.8 to 4.18) and relates to the need for sub-catchment delineation in the Upper Waikato FMU, including the creation of new sub-catchments in some of the large tributaries to differentiate between issues and actions in tributaries compared to the main stem.

3.13 I note from the Officers' report that there were 57 submissions; eight submissions opposed the methods (or parts of), two submissions were neutral, and the remaining were supportive (in whole or in part). This suggests that the overwhelming majority (some 80%) of submitters supported the implementation methods that the Officers recommend deleting. In my opinion the proposed deletion of all implementation methods is misaligned with the submission feedback and should be rejected. As discussed earlier in my evidence, my opinion is that some implementation methods could be deleted, and others retained (or retained with amendments).

### ***Consequential amendments to the Waikato Regional Plan***

- 3.14 The Officers note that a total of seven submitters commented on Part D. I note that Mercury's evidence was mistakenly overlooked in the Section 42A Report analysis as they are not one of the seven named submitters.
- 3.15 Several points raised by Mercury were also raised by other submitters and have been satisfactorily resolved. Mercury supported consequential amendments to WRP section 3.2 and section 5.1. The Officers do not recommend any changes to these consequential amendments in the Section 42A Report, which in my opinion is appropriate.
- 3.16 Mercury's submission sought amendments to three specific provisions. The proposed amendments sought to add a missing word (WRP Section 3.5) and amend references to "objectives" to "policies" to be internally consistent (WRP Sections 4.3.3 Policy 1 and Section 5.2.2). I support these points, which I have provided below (recommended amendments (deletions and insertions) are shown as ~~striketrough~~ and underline).

(a) Section 3.5 Discharges - new sentence at end of Background and Explanation

*“Chapter 3.11 addresses the use of land for farming in the Waikato and Waipa River catchments including associated diffuse discharges.”*

(b) Section 4.3.3 Policy 1 (b)

*“.....does not degrade water quality and aquatic ecosystems in a manner that is inconsistent with policies in Section 3.2.3 and the ~~objectives~~ policies in Section 3.11.2”*

(c) Section 5.2.3 Policy 2(c)

*“any effect on water quality or aquatic ecosystems that is inconsistent with the purpose of the Water Management Classes as identified by the policies in Section 3.2.3 or in the Waikato and Waipa River catchments, the water quality ~~objectives~~ policies in Section 3.11.2”.*

3.17 Mercury’s submission opposed PC1’s proposed consequential amendment to the permitted activity Rule 4.2.10.1 (n) – Discharge and Intake structures. In its operative form Rule 4.2.10.1 (n) references Water Management classes that set out, in Section 3.2.4 of the WRP, the relevant standards and limits for classes of water. These standards are specific and the test of meeting, or not meeting, the standards is simple and objective. PC1’s proposed consequential amendment requires that the discharge or intake structure shall be consistent with the water quality objectives in Chapter 3.11. This introduces subjectivity into the rule and, in my opinion, is inappropriate for a permitted activity rule. I do however, consider that reference to Chapter 3.11 objectives may be appropriate in assessment matters on controlled and restricted discretionary activity rules, as per the notified consequential amendments to other rules in Chapter 4.2 of the WRP.

3.18 In the context of PC1, I consider that it is inappropriate and unnecessary for permitted activity Rule 4.2.10.1 to reference objectives in Chapter 3.11. For these reasons I recommend deleting the proposed consequential amendment to Rule 4.2.10.1 (refer to deletions in Appendix 1).

Gillian Crowcroft  
Environmental Lead, Harrison Grierson  
5 July 2019.

## APPENDIX 1: CHANGES TO PC1 PROVISIONS SOUGHT

My recommended amendments (deletions and insertions) are shown as ~~strikethrough~~ and underline.

### Implementation methods (with consequential renumbering of the methods as appropriate)

#### 3.11.4.5 *Sub-catchment scale planning/Te whakamāherehere mō te whānuitanga o ngā riu kōawaawa*

*Waikato Regional Council will work with others to develop sub-catchment scale plans (where a catchment plan does not already exist) where it has been shown to be required. Sub-catchment scale planning will:*

- a. Identify the causes of current water quality decline, identify cost-effective measures to bring about reductions in contaminant discharges, and coordinate the reductions required at a property, enterprise and sub-catchment scale (including recommendations for funding where there is a public benefit identified).*
- b. Align works and services to reduce nitrogen, phosphorus, sediment and microbial pathogen discharges including riparian management, targeted reforestation, constructed wetlands, sediment traps and sediment detention bunds.*
- c. Assess and determine effective and efficient placement of constructed wetlands at a sub-catchment scale to improve water quality.*
- d. Support research that addresses the management of wetlands, including development of techniques to monitor ecological change and forecasting evolution of wetland characteristics resulting from existing land use in the wetland catchments.*
- e. Integrate the regulatory requirements to fence waterways with the requirements for effective drainage scheme management.*
- f. Coordinate funding of mitigation work by those contributing to water quality degradation, in proportion to that contribution.*
- g. Utilise public funds to support edge of field mitigations where those mitigations provide significant public benefit.*

#### **3.1.4.7 ~~Information needs to support any~~ Preparing for future allocation plan changes**

*Gather information and commission ~~appropriate~~ scientific research to ~~inform any~~ prepare for future framework for the allocation of diffuse discharges including plan changes by:*

- ~~a. Implementing processes that will support the setting of property or enterprise level diffuse discharge limits in the future.~~
- ~~b. Researching:~~
  - ~~i. The quantum of contaminants that can be discharged at a sub-catchment and Freshwater Management Unit scale while meeting the Table 3.11-1 water quality attributes targets.~~
  - ~~ii. Methods to categorise and define 'land suitability'.~~
  - ~~iii. Tools for measuring or modelling discharges from individual properties, enterprises and sub-catchments, and how this can be related to the Table 3.11-1 water quality attribute targets.~~
- a. Collecting data to enable setting of targets for attributes at the sub-catchment and Freshwater Management Unit scales.

- b. Collecting information about current land management and discharges.
- c. Undertaking research to understand the spatial variability of land use and contaminant losses.
- d. Developing modelling tools to estimate contaminant discharges.

#### 3.11.4.10 Accounting system and monitoring/Te pūnaha kaute me te aroturuki

Waikato Regional Council will establish and operate a publicly available accounting system and monitoring in each Freshwater Management Unit<sup>^</sup>, including:

- a. Collecting information on nitrogen, phosphorus, sediment and microbial pathogen levels in the respective fresh water bodies in each Freshwater Management Unit<sup>^</sup> from:
  - i. Council's existing river monitoring network; and
  - ii. Sub-catchments that are currently unrepresented in the existing monitoring network; and
  - iii. Lake Freshwater Management Units.
- b. Using the information collected to establish the baseline data for
  - i. developing short term limits and targets and long term water quality states for any subcatchments currently unrepresented in Table 3.11-1; and
  - ii. establishing the priority for any subcatchments currently unrepresented in Table 3.11-2; and
  - iii. compiling a monitoring plan and to assess progress towards achieving the Table 11-1 water quality attribute targets; and
- c. Using state of the environment monitoring data including biological monitoring tools such as the Macroinvertebrate Community Index to provide the basis for identifying and reporting on long-term trends; and
- d. An information and accounting system for the diffuse discharges from properties and enterprises that supports the management of diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens ~~diffuse discharges~~ at an enterprise or property scale.

## Consequential Changes

- Section 3.5 Discharges - new sentence at end of Background and Explanation  
 “Chapter 3.11 addresses the use of land for farming in the Waikato and Waipa River catchments including associated diffuse discharges.”
- Section 4.3.3 Policy 1 (b)  
 “.....does not degrade water quality and aquatic ecosystems in a manner that is inconsistent with policies in Section 3.2.3 and the objectives policies in Section 3.11.2”
- Section 5.2.3 Policy 2(c)  
 “any effect on water quality or aquatic ecosystems that is inconsistent with the purpose of the Water Management Classes as identified by the policies in Section 3.2.3 or in the Waikato and Waipa River catchments, the water quality objectives policies in Section 3.11.2”.

#### 4.2.10.1 Permitted Activity Rule - Discharge and Intake Structures

1. Unless controlled by Rule 4.2.5.1, 4.2.9.1, 4.2.9.2 and 4.2.9.3 the use, erection, reconstruction, placement, alteration or extension of a discharge or intake structure

*and associated bed disturbance, in, on, under or over the bed of any river or lake,  
and*

2. *Any discharge of sediment associated with construction activities;*

are **permitted activities** subject to the following conditions:

...

- n. *The structure shall be consistent with the provisions specified in the Water Management Classes in Section 3.2.4. of this Plan ~~and in the case of the Waikato and Waipa River catchments, the relevant water quality objectives in Chapter 3.11.~~*