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Report to the Utility Services Committee
from Alastair McCarthy, Asset and Quality Manager

Resource Consents to Abstract Surface Water

1. Purpose

The purpose of this report is to acquaint the Committee with the background to, and the basis of, consent applications to renew rights held by the Wellington Regional Council (WRC) to take surface water for public water supply.

2. Background

The resource consents currently held by The Water Group to take water from surface sources are existing uses authorised by Section 386 (1) of the Resource Management Act 1991 (RMA).

All existing use rights expire on the tenth anniversary of the RMA, that is 1 October 2001.

Opus International Consultants Ltd have researched the catchment characteristics, examined potential environmental effects, and consulted with interested parties and the iwi. They have prepared a consent application and a supporting Assessment of Environmental Effects (AEE) for each catchment.

3. Regional Freshwater Plan

The Regional Freshwater Plan for the Wellington Region (RFP) became operative on 17 December 1999, following several years of investigation, and consultation. Provisions relating to the major abstractions from surface water for public water supply were developed in close consultation with the Water Group staff approximately two years ago.

The resource consent applications recognises the relevant provisions in the RFP, and in particular the minimum river flows required downstream of abstraction points.

4. Environmental Considerations

The abstraction of water in large quantities from major rivers close to built up areas has significant environmental impacts.

Equally, however, the provision of sufficient quantities of safe water to the regional community at affordable cost is a key requirement for the ongoing viability of that community.

The process of developing the RFP has considered the balance between the conflicting demands of the ecology and recreation on the one hand and public water supply on the other. A consensus has been reached and is embodied in the plan. The contents of the plan have been recognised in compiling the consent applications.

For the Wainuiomata and Kaitoke catchments, above a threshold only 50 percent of the water available will be taken. Although not required by the RFP, this flow sharing will assist in preserving the natural variation in river flow.

5. Communications

The Consent applications are being made within the context of a formal statutory process set out in the RMA. The RMA requires consultation with iwi and interested parties. This consultation has been undertaken.

The RMA also requires that applications of this nature be publicly notified and submissions called for. This notification will be undertaken by Environment Division staff following the lodging of our applications.

No significant issues were raised during consultation, principally because the consent applications largely reflect a long-standing existing situation, generally accepted by the public, which does not have significant environmental impacts.

Given the above circumstances, any media release would be more appropriate following the granting of the new consents.

6. Existing Abstraction Rights

Existing abstraction rights are illustrated in Attachments 1 through 3, these will be explained at the Committee Meeting.

6.1 Hutt River at Kaitoke

See Attachment 1. Currently WRC is authorised to take all the water in the river up to a maximum of 100 megalitres per day (MLD). This is equivalent to 1160 litres per second (L/sec).

About one year in three, during periods of very low flow, this regime allows the taking of all water at the weir, leaving only a very small amount of water in the Hutt River between the intake and the Pakuratahi confluence. This confluence is a few hundred metres downstream of the weir.

The limit of 100 MLD is insufficient to fully utilise the capacity of the Kaitoke/Te Marua facilities. It restricts our ability to refill the storage lakes when the treatment plant is providing a high output. The capacity of the tunnel between Kaitoke and Te Marua is approximately 140 MLD.

6.2 Wainuiomata Catchment

See Attachment 2. Currently WRC is allowed to take up to 27.3 MLD (316 L/sec) provided a minimum flow of 5 MLD (58 L/sec) is left in the river. During April, May and June a minimum flow of 10 MLD (116 L/sec) is required to facilitate fish spawning.

6.3 Orongorongo Catchment

Refer to Attachment 3. Currently WRC is allowed to take up to 22.7 MLD (263 L/sec) from the Orongorongo Catchment. There is no restriction with respect to the minimum flow in the river.

This flow is well below the capacity of the pipeline from the Orongorongo Valley to the Wainuiomata Treatment Plan, which is 55 MLD (640 L/sec).

7. Basis of New Consent Application

Three separate applications will be lodged for:

Hutt River at Kaitoke
Wainuiomata River and George Creek
Orongorongo River, Big and Little Huia Creeks and Telephone Creek

The broad basis of the application is the same for each, but details and quantities vary.

In each case the maximum term of 35 years will be sought.

7.1 **Hutt River at Kaitoke**

The proposed abstraction regime is illustrated in Attachment 1, this will be explained at the Committee meeting. It is as follows:

(1) All water in the river above a minimum environmental flow of 600 L/sec is available for abstraction, until the amount abstracted reaches 100 MLD (1160 L/sec).

The minimum environmental flow is as set out in the Regional Fresh Water Plan. Leaving this flow in the river will significantly reduce the amount of water that can be taken when the river is very low. For example, at the peak of a five year return period drought 37 MLD will be available in the future compared with 89 MLD under the current consent conditions. At the peak of a 50 year return period drought 13 MLD will be available compared with 65 MLD currently. However, the average or mean flow during the months of January, February and March is sufficient to provide the full amount of water applied for, 150 MLD.

(2) When the river flow is above 1760 L/sec it is proposed to take only 50% of the additional water available. Although not required by the RFP, this 50/50 sharing concept has been used in some other locations around the country, and will assist in preserving the natural variation in the river flow as far as practicable. Flow statistics show that the river is above 1760 L/sec for 91% of the time.

(3) The maximum amount of water that can be taken is 150 MLD. This is slightly greater than the present capacity of the tunnel from Kaitoke to Te Marua. It represents a 50% increase over the present limit, and will provide considerably more flexibility for refilling the Te Marua Lakes.

7.2 **Wainuiomata Catchment**

The proposed abstraction regime is illustrated in Attachment 2. It is as follows:

(1) All water in the river above a minimum environmental flow of 100 L/sec is available for abstraction, until the amount taken reaches 35 MLD (405 L/sec).

This minimum environmental flow is as set out in the Regional Fresh Water Plan, and is a significant increase from the existing limit of 58 L/sec. This change will slightly reduce the amount of water available when the river is low. For example, during February, the average river flow is 387 L/sec. Previously at this flow 27.3 MLD was available. In future we will only be able to take 24.8 MLD.

(2) When the river flow is above 500 L/sec the proposed right will allow us to

take 35 MLD plus 50% of any flow above 500 L/sec, up to a maximum of 60 MLD.

The river flow exceeds 500 L/sec for 56% of the time.

This regime allows abstraction of significantly more water than previously, except when the river is very low. It provides the flexibility to supply the full capacity of the Water Treatment Plant from the Wainui Intake if the need arises and the water is available.

In addition to the above the right to take up to 15 MLD from the lower George Creek Intake and 10 MLD from the Upper George Creek Intake has been applied for. This provides some operating flexibility.

7.3 **Orongorongo Catchment**

The proposed abstraction regime is illustrated in Attachment 3. It is as follows:

All water in the river above a minimum environmental low flow of 100 L/sec is available for abstraction, up to a maximum of 60 MLD.

In addition, application has been made to take water from small side catchments as follows:

Intake	**Flow**
Big Huia Creek	Up to 20 MLD
Little Huia Creek	Up to 4.3 MLD *
Telephone Creek	Up to 4.3 MLD **

* For public water supply and/or electricity generation.
(Local power supply for telemetry and operating valves)

** This intake is currently out of service.

The combined take is not to exceed 60 MLD.

The minimum environmental flow is as set out in the Regional Freshwater Plan. Currently no residual minimum flow is required. This change will slightly reduce the amount of water available when the river is very low (less than a five year return period drought). The minimum flow is measured at the truss bridge, which is downstream of all the intake sites.

The maximum abstraction rate of 60 MLD slightly exceeds the capacity of the pipeline from the Orongorongo Valley to the Wainuiomata Treatment Plant. It provides flexibility to supply the full capacity of the plant from the Orongorongo sources.

8. Modelling of Future Demand

Modelling of future demand using the Sustainable Yield Model (SYM) is described in Committee Report 98.528. The assumptions in the model are broadly in line with the likely conditions on new surface take consents as described in this report.

The model showed that there is an acceptable risk of shortfall (2%) up to the year 2020, using a high population growth scenario.

9. Summary

The process of developing the Regional Freshwater Plan has resulted in the setting of minimum environmental low flows for all public water supply surface sources. These flows represent a balance between use for water supply and conservation for environmental and recreational purposes. They reduce the amount of water available for public water supply during drought conditions.

However, computer modelling indicates that this reduction does not become significant until 2020.

The proposed new consents provide greater flexibility when river flows are at higher levels. This is particularly the case at Te Marua, where more flexibility to fill the storage lakes will be available.

10. Recommendation

(1) That the report be received and the information noted.

(2) That the applications be lodged.

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Attachments (3)