

Report No:	REP11-08-11
File No:	W515
Date:	15 August 2011
Decision Required	

REPORT SUMMARY

Report to: Environment & Planning Committee
Meeting Date: 25 August 2011
Report Authors: Mary-Anne Baker - Policy Planner
Joseph Thomas - Resource Scientist Water/Special Projects
Rob Smith - Manager Environment Information

Subject: **MEASUREMENT AND REPORTING OF WATER TAKES REGULATION 2010 (Takes from Storage, Surface Water Takes in Seasonally Dry Areas and Release of Policy Options Paper (Water Metering))**

EXECUTIVE SUMMARY

New regulations have been passed by Central Government about the Measurement and Reporting of Water Takes. The Council is required to implement and monitor the regulations.

The Council has a number of water measuring and metering requirements already in its Tasman Resource Management Plan. The provisions of the regulations apply although the Council may have more stringent provisions in addition to the regulations.

The Council has already considered a number of differences between the regulations and what is currently required by the Council in respect of water measuring and metering and has identified preferred options.

There was uncertainty about the extent to which the regulations applied to takes from storage, and while Council had advocated to the Ministry of the Environment for amendments to the Regulations, it was not successful and consented takes from storage (over 5 litres per second) will require metering. The Council Plan currently specifies takes from storage as controlled activities.

The previous report on the implications of water metering did not address the impact on water users in seasonally dry zones such as the Moutere Surface Water zone where the council does not currently require metering for any takes.

This report advises the Council on options, including plan changes, to deal with the issues arising.

RECOMMENDATIONS

That the Committee adopt the draft resolution

DRAFT RESOLUTION

THAT the Environment & Planning Committee receives the Report MEASUREMENT AND REPORTING OF WATER TAKES REGULATION 2010 (Takes from Storage, Surface Water Takes in Seasonally Dry Areas and Release of Policy Options Paper (Water Metering)) REP11-08-11 and adopts the recommendations:

- 1. That all owners of dams who have consents to take water from the dam be provided with information about the two options to manage the water meter regulations and feedback sought as to their preferred option.**
- 2. That the consent status for surface water takes in seasonally dry areas not be changed and that both the plan and the regulation requirements for water meters would apply to all consented water takes.**
- 3. That the TRMP Schedule 31B requirements be amended to be consistent with the provisions of the Measurement and Reporting of Water Takes Regulation 2010.**
- 4. That Council retain discretion not to require electronic reporting capability on water meters for takes less than 5 l/sec.**
- 5. That Council release for public consultation the Policy Options Paper (Appendix 1 of REP11-08-11) with amendments to that paper to include:**
 - the description of the issues and options arising from management of water takes from storage and water takes in the seasonally dry zones including the Moutere Surface Water Zone contained in this report and**
 - the preferred options identified in Recommendations 1 - 4 above.**

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Subject: **MEASUREMENT AND REPORTING OF WATER TAKES
REGULATION 2010 (Takes from Storage and Surface
Water Takes in Seasonally Dry Areas)**

1. Purpose

- 1.1 Central Government has passed the Resource Management (Measurement and Reporting of Water Takes) Regulation 2010 which came into effect on 10 November 2010. The Council is required to implement and monitor the regulations.
- 1.2 Report REP11-06-05 provided information about the implications of the new regulations for Council and water users in Tasman and assesses options for management. At that time the final details in respect of takes from storage were not certain.
- 1.3 Information is also provided in this report about the impact of the regulations on water takes in areas where water takes are likely to have failed at the onset of rationing. This is common in the Moutere Surface Water Zone and water meters have not generally been required in those situations.
- 1.4 The Regulations provide for transitional requirements for takes larger than 5 litres per second. However, for many zones, the plan requirements currently specify dates by which meters are required (and all specified zones would have been required to be metered by 2014). The report clarifies the relationship between the plan and the regulations and discusses the need for some amendments.
- 1.5 For some zones, including the Motueka Plains Zones, Council delayed implementation of the metering requirements until the regulations were finalised, so that users would be able to install water meters compliant with the regulations. Council will need to confirm the water metering dates as specified in the regulations and that the schedule dates are superseded.

2. Background

2.1 Regulations

The regulations only apply to water takes that need a resource consent. Permitted activity takes under the TRMP Tasman Resource Management Plan (the Plan) do not need meters under the regulations.

New regulations in respect of water metering and reporting apply to the taking of water. The key features of the regulations are specifications for:

- a) Where regulations will apply
- b) Water meters
- c) Reporting of information

The regulations prevail over a regional rule or condition of a water permit. However, a rule in a plan or a resource consent condition that is more stringent will prevail over the regulations.

3. Matters to be Considered

3.1 Takes from Storage

There was uncertainty about the extent to which the regulations applied to takes from storage when report REP11-06-05 was considered by Council. While Council had advocated to the Ministry of the Environment for amendments to the Regulations, it was not successful and consented takes from storage (over 5 litres per second) will now require metering. The Council Plan currently specifies takes from storage as controlled activities.

3.2 Implications

Although needing consent as a controlled activity, takes from storage are rarely required to install water meters and none are specifically required under the TRMP.

Table 2 shows the current number of dam takes in relation to water metering. Consents are required to enable conditions to be imposed to manage adverse effects of the take from storage on the subsequent flows from the dam and on downstream water users.

Table 2: Takes from Storage consents and water meter status

	>20 litres/second	10-20 litres/second	5-10 litres/second	Takes <5 litres per second (regulation does not apply)	Total
Total with Meter	2	1	1	2	6
Total without Meter	8	24	53	70	155
Total	10	25	54	72	161*

The Council has considered changes to the regulatory regime for dams to ensure that both consenting and water meter requirements for dams are not excessive.

3.3 Current Regulatory Requirements for Dams

A number of regulatory requirements currently apply to dams. These are summarised in the table below.

Table 3: TRMP Rules for dams

	Permitted conditions	Controlled	Discretionary
Dam structures in the beds of rivers (RMA Section 13)	28.2.2.2 (proposed rule - Part IV) <20 ha Less than 5,000m ³ (and several conditions relating to the location, construction and maintenance of the dam and provision of fish passage) <i>There are some 600 permitted dams</i>	28.2.2.3 Renewal applications for existing dams. (where >20ha and 5,000m ³)	28.2.2.4 All other dams (i.e new dams >20ha and > 5,000m ³)
Damming water (RMA Section 14)	31.1.4.1 <20 ha (no conditions apart from a restriction on subdivision through a dam and its impoundment)	31.1.4.2 Renewal applications for existing damming Matters include control over rate manner and timing of discharges from the dam, and provision of residual flow, effects on aquatic and riparian ecosystems, including of the impoundment, management of aquatic habitat, including of pest species, effects on other uses and on downstream users and landowners, water meters. <i>109 consents to dam</i> <i>Of those approx 72 have consents for both damming and taking</i>	31.1.4.3 All other
Taking water (from dams) (RMA Section 14)	31.1.2.1 Up to 5 or 20 m ³ per day, depending on the zone (The taking of stock water or for fire fighting is not limited) <i>An unknown number</i>	31.1.2.4 Provided the dam is a constructed structure. Matters include provisions for residual flows and management of discharges from the dam, effects on aquatic ecosystems,	31.1.2.5 Takes from lakes (none current)

	Permitted conditions	Controlled	Discretionary
		maintenance of habitat, pest management, effects on downstream users) <i>Approx 160 consents for taking (about 70 take less than 5l/sec and about 90 take more than 5l/sec)</i>	
Discharging water from a dam (RMA Section 15)	36.2.2.8 Discharge during floods does not exceed inflow or not in excess of that required under water permit for damming.		All other

Very few takes from storage are metered although they all require resource consent (as a controlled activity 31.1.2.4).

Historically, Council has encouraged storage across the District, but especially in the Moutere Gravel geology where water stored in winter and at times of plenty is used for summer month irrigation when surface water bodies are generally dry.

The construction of the dam and the damming of water are both permitted for small catchments less than 20 hectares. Council then manages the taking and use of water by requiring consents as a controlled activity for the taking from storage if the rate exceeds the permitted activity rate for that zone.

This regime is intended by Council to reflect the benefits of water augmentation and the investment decisions made by water users and water use efficiency and security of supply decisions are left to the irrigator/water user. Council has not monitored or regulated the efficiency of water takes from storage and usage data is not required for bona fide reviews for these takes.

The consent to take from storage (required for takes of >5m³/day) enables regulation and control of downstream effects of the taking from the dam and, where relevant, may contain conditions relating to the use of the water and maintenance of habitat in the impoundment.

Most of the dams are in the Moutere Gravel geology and harvest water via runoff in the winter. The rate or timing of the taking from storage is not related to when the water arrives in the dam and water metering has not previously been required. However, Council applies conditions to the taking of water from a dam that help to manage the effects of the dam on downstream users.

Many consents to “take from storage” are subject to a condition related to soil based application rates and specify rates of taking, conditions which are difficult to monitor in practice without a meter.

Consents to take water from storage are infrequently monitored, but serve a particular purpose in ensuring that takes from dams (when water flow into the dam is reduced) still account for downstream effects. Minimum annual charges are applied to these permits. However, regulation and control is important to avoid adverse effects on existing dam users as catchment runoff is limited.

Some of the takes from storage would be from dams with catchments less than 20 hectares.

There are about 160 takes from storage consents. Of those about 90 do not have a either a dam structure or damming water consent linked to the valuation and are likely to be takes from permitted dams. (There are in excess of 600 permitted small dams in the district.)

In some cases bores or takes from surface water are used to fill storage. Meters on takes from ground or surface water to fill storage are generally required in most situations. Under the regulations, two meters could be required one for the bore and one meter for the take from storage if it exceeds the 5 litres per second threshold.

The environmental effects of storage dams in the Moutere Gravel geology, where summer water supplies are practically non-existent, are generally beneficial. Dams clearly provide social and economic benefits.

However, cumulative effects of dams across a catchment can be significant, and control of takes from storage has been used to avoid conflicts between users. A good understanding of the nature and scale of water takes from these dams is still of benefit to holistic and integrated water management. A permitted rule would prevent cost recovery of monitoring and decrease the options for data collection and management for water resource management purposes.

3.4 Options

Council has two main options:

- implement the regulations for takes from dams greater than 5 l/sec (essentially a status quo option). Many of the existing consented takes have rates specified in cubic meters per hour or day. Calculation in litres per second might not reflect an accurate rate of take and some permit holders may seek to review their consents to more accurate litres per second. The number actually requiring meters may be substantially less than 90. Some consent holders may also surrender their consents to take.
- amend the status of dam activities (i.e. change the status of takes from storage to permitted and amend damming rule)

(Not making any changes to the “take from storage” rules and continuing not to require water meters cannot be recommended as it would be contrary to the regulations.)

A plan change would be needed if the impact of the regulations on takes from storage was to be changed.

In summary, notwithstanding the wider benefits of water meters to monitor water use, the options principally involve a decision about the trade-off in costs to water users between:

- (i) costs of a water meter for takes at rates more than 5 litres per second, (costs of the meter as well as ongoing verification) and/or
- (ii) costs of a review of consent (to ensure the specified rate in litres per second is accurate; it is likely that many can be reviewed downwards and the costs of the meter can be avoided.) A review requires a deposit of \$500

and

- (i) costs of a new consent to dam water (the application costs as well as the on-going annual charges). An application fee would generally start with a deposit of \$900

	<p>Option 1 The regulations will apply to takes from storage greater than 5 litres per second.</p> <p>(Up to about 90 of the existing consented takes are affected. (Refer to table 1).</p>	<p>Option 2 Change status of take from storage to permitted activity and require damming consents where any take exceeds the permitted thresholds.</p> <p>(The permitted rule could be subject to conditions including requiring notification to Council. Any monitoring and water management related costs are covered by Council. (See also table 3 below.)</p>
Costs and Risks	<ul style="list-style-type: none"> • Double accounting will occur in some cases where both the take to storage and the take from storage is required to be metered. • The taking from storage is often unrelated to when the water arrived in the dam and therefore a meter often does not manage the environmental effects of the take in “real time”. • Costs in dam construction and maintenance mean there is a strong incentive to use storage efficiently, and the additional requirement for meters is likely to have marginal benefits (irrigators may claim they already have measures in place to 	<ul style="list-style-type: none"> • A loss in regulation and management ability of water takes from dams would remove the security for existing owners and users of dams, as current take from storage consents address effects on downstream water users. (residual flow requirements could in part be addressed by the discretionary matters for the controlled damming activity) • A potential loss in the ability to manage cumulative effects of taking water from dams in a catchment.

	<p>ensure efficient water use).</p> <ul style="list-style-type: none"> • Residual flow requirements from the dam may already be addressed under the “damming water” resource consent. • Not consistent with existing Council approach to promote dams and promote users’ investment into augmentation that allows them to have an improved security of supply outside the council’s own security of supply standards. • Relatively expensive meters are likely in some situations due to poor water quality. • Metering may be a disincentive to the use of augmentation options and result in less irrigation and less primary production. <p>Users face costs associated with a consent review to better reflect rates of take in litres per second</p>	<ul style="list-style-type: none"> • A reduction in annual charges gathered by Council to cover water resource investigations. (Currently 160 take consents at \$125 is \$20,000. This is offset by an unknown but smaller number of new consents to dam water for takes over 5 l/sec) • without water meters the amount of water being used is not managed accurately and neither the council nor the water users has best information about water use efficiency of water taken from storage Water users not able to accurately measure water use (irrigators may claim they already have measures in place to ensure efficient water use). • new consents required for many currently permitted damming activities. (costs off-set by new permitted take from storage rule). Some 160 consents no longer required for takes from storage. But there will be additional 90 or so damming consents required. (at the moment only about 72 already have both take and dam consents.) • Consent holders may consider that the costs of applying for a new consent to dam water and the on-going monitoring costs will outweigh the costs of a new meter on the takes that exceed 5/sec • It is ultra vires to impose water take and use (application rate/irrigation efficiency) conditions on a consent to dam water.
<p>Benefits</p>	<ul style="list-style-type: none"> • Water meters enable water users to accurately assess if water is being used efficiently (and dams are nearly all in water short catchments) • Water meters enable compliance of 	<ul style="list-style-type: none"> • Water users not faced with water meter costs • Resource consent costs reduced for some dam owners

	<p>conditions requiring efficient water use (including application rates that are based on soil characteristics)</p> <ul style="list-style-type: none"> Water meter data also assist council in gaining information about the total resource available for use. review of consents may result in a much smaller number of takes likely to be greater than 5/litres per second; the impact of this option may not be as significant as option 2 in relation to the trade off between a new meter for the bigger takes and the new consent requirements. <p>Where takes from storage exceed 5l/sec</p> <ul style="list-style-type: none"> no plan change costs as rules continue as they currently apply 	<ul style="list-style-type: none"> Damming consent conditions can address minimum or residual flows flow requirements Existing consents for (controlled takes from storage) no longer required Costs of water meters avoided for all takes from storage Continues to be consistent with water augmentation policy. The (new) controlled status for all damming consents can address any residual flow requirements to address adverse environmental and downstream effects, rather than having these aspects covered in the take from storage consent as currently done.
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The possible rule changes to support Option 2 are summarised in Table 3 below.

Table 3: Option 2 for amended regulation of dams

	Permitted	Controlled	Discretionary
Dam structures in the beds of rivers (RMA Section 13)	28.2.2.2 <20 ha <5,000m ³ (and several conditions relating to the location, construction and maintenance of the dam)	28.2.2.3 Renewal applications for existing dam structure (where >20ha and 5,000m ³)	28.2.2.4 All other dams (i.e new dams >20ha and > 5,000m ³)
Damming water (RMA Section 14)	31.1.4.1 <20 ha <u>provided any take from the dam is less than 5 - 20 m³ per day (depending on the zone) or for domestic use, stock or fire fighting</u> <i>an unknown number</i>	31.1.4.2 Renewal applications for existing damming. New applications for damming where the take (from existing dams) is greater than 5-20m ³ per day. Matters include control over rate manner and timing of discharges from the dam, and provision of residual flow, effects on aquatic and riparian ecosystems, including of the impoundment, management of aquatic habitat, including of pest species, effects on other uses and on downstream users and landowners, water meters	All other

		<p><i>Approx 109 consents all ready exist for damming</i></p> <p><i>About 50-60 more will be required where the take is from a dam less than 20ha in size but which take more than 5 -20 m3 per day.</i></p>	
Taking water (from storage dams) (RMA Section 14)	<p>31.1.2.1 Up to 5 or 20 m³ per day, depending on the zone All takes from storage <u>provided intakes are screened and the dam contains a residual level of water</u></p> <p><u>about 160 takes become permitted</u></p>	<p>31.1.2.4 Provide the dam is a constructed structure.</p>	
Discharging water from a dam (RMA Section 15)	<p>36.2.2.8 Discharge during floods does not exceed inflow or not in excess of that required under water permit for damming.</p>		All other

Under this option, the regulation requirement for meters for takes from storage is avoided, but matters of discretion will allow for it if necessary. A meter will generally continue to be required where water is taken from a stream or bore to fill the dam.

A further policy to describe the management of water takes from dams is also necessary to provide clarity and support for the rules.

3.5 Recommendation

That all owners of dams who have consents to take water from the dam be provided with information about the two options to manage the water meter regulations and feedback sought as to their preferred option.

Appendix 1 shows the possible plan changes that would be necessary to support Option 2. It includes TRMP provisions for managing damming of water to be amended so that:

- damming water by small dams (those with catchments less than 20 ha) is a permitted activity provided any takes from the dam do not exceed the permitted quantity for that zone.

- Renewal applications for “damming” are controlled activities and conditions will manage residual flows and effects on downstream users. (New applications for damming water for dams with catchments more than 20 ha continues to be a discretionary activity)
- the taking of water from storage from all dams is a permitted activity
- new policy is provided for explanation and direction for managing dam water.

4. Takes in Seasonally Dry Zones

4.1 Moutere Surface Water Zone

A proviso in Schedule 31B provides for discretion to not require water meters where a water supply would have failed at the onset of any rationing. This has most effect in the Moutere Surface Water Zone (MSWZ) where water supplies are not reliable and frequently dry in summer. Some surface takes in other Moutere Gravel streams such as the Dove River may also be affected.

There are also a number of takes in the MSWZ that are takes at higher flows to fill storage dams. They are also unlikely to have water meters.

Conditions on consents generally require that a residual flow of water be maintained. Very few surface water takes are metered in the MSWZ zone (see table 4).

Table 4; Water Takes in the Moutere Surface Water Zone

	>20 litres/second	10-20 litres/second	5-10 litres/second	Takes <5 litres per second (regulation does not apply)	Total
Total with Meter					
Total without Meter	7	8	18	18	54
Total	7	8	18	18	54

4.2 Implications

The regulations would apply to takes greater than 5 litres per second in the seasonally dry areas. The expectations of water users in these areas will be affected as the Council has previously not required takes in these areas to be metered.

At the moment all existing takes (both take and fill to storage dams at times of high flow as well as takes during summer) are controlled activities upon renewal of existing consents.

There is little scope for new surface water takes in times of low flow as there is no allocation limit set and the rules and policies constrain opportunities for new takes in the MSWZ. There is, in particular, a policy (30.1.3.32) indicating a need to allow for more plantation forest in the Surface Water Protection Area if surplus water becomes available.

While there is no information to confirm it, the security of supply for most users in these areas would be less than the ideal (which is a 35% reduction in a one in ten year drought). A moratorium on new takes in the MSWZ has been in place since 1988.

Note also that the compliance team deal with complaints every year about effects of water takes on downstream users in the Moutere area.

The Council and community has not examined the need to improve security of supply for individuals by establishing allocation limits or rationing provisions in this Zone because the supplies are already unreliable and most irrigation is supported by dams or is from the deep aquifers. The new National Policy Statement requires assessment of situations where water is “over-allocated” and measures to be adopted to manage this.

4.3 Options

The Council may consider:

- an alternative rule status to permit (existing) takes in the seasonally dry zones so as to avoid metering or
- applying the water meter requirements to all consented takes.(i.e The plan and regulation provisions would apply to all consented water takes)

Given the policy direction already provided for Moutere surface water management and the high level of competition for any existing water, no changes to the current consent requirements for surface water takes in the Moutere Surface Water Zone can be recommended.

The area is already water short and subject to high demand for permitted small takes (less than 5 cubic meters per day) as well as the consented takes and also in relation to the demand for new plantation forest opportunities.

In spite of the Moutere Streams having a high potential habitat value for native fish, the low flows in summer adversely affect their health and sustainability. The few residual pools and wetlands provide refuges for fish that are an important part of the already compromised ecosystem and a consent process at least allows some consideration of this impact.

Complaints are regularly made during low flow periods in summer. There is little scope for any improvement in the management of competition between users or reduction in allocated water without a requirement for consents and conditions that limit adverse effects.

The consent process will enable some management of residual flows, refuge habitat and cumulative effects as well as management of competing demands.

Some benefits of water meters also accrue to water users, especially in relation to monitoring their own water use and ensuring efficiency of use

However, the costs of water metering will fall on the water permit holders. Not just provision of water meters, but ongoing costs of verification and the new concept of providing water meter data to council may prove to be challenging to water users in these areas.

4.4 Recommendation

That the consent status for surface water takes in seasonally dry areas not be changed and that both the plan and the regulation requirements for water meters would apply to all consented water takes.

5. Transitional Provisions

5.1 Clarification of requirements

Further clarification on how the regulation requirements will be managed in relation to the TRMP provisions for water meter installation is provided.

The regulations specify the following dates by which water meters must be installed:

- a) 20 litres per second or more: need to comply by 10 Nov 2012
- b) 10 to 20 litres per second: need to comply by 10 Nov 2014
- c) 5 to 10 litres per second: need to comply by 10 Nov 2016

The regulations do not have any transitional requirements for takes less than 5l/sec but Council has already indicated a preference (see REP11-06-05) for November 2018 as a target for installation.

The transitional provisions also apply to renewal consents which now allows some equity between new and existing water users. This was a particular issue for consents currently being renewed in the Delta Zone. The transitional provisions will enable them to install meters as per the dates specified in the regulations rather than on immediately upon renewal.

For many users who already have meters, the transitional provisions will have the most impact in terms of requiring the meter to be verified for accuracy. This will also impact on Council processes to ensure compliance with this. Industry accredited verifiers also need to be aware of the needs for verification for existing meters rather than immediately on renewal of their consents.

5.2 TRMP Requirements

TRMP Policy 30.2.3.13 and rules through Schedule 31B currently require the majority of consented takes to install a meter although installation is according to a timed schedule depending on which zone the take point is in.

A decision was made by Council in 2008 to suspend requirements specified in Schedule 31B for metering to await the outcome of the water metering regulation. This suspension applies mainly to existing consents in the Riwaka, Central Plains, Swamp and Umukuri Zones as those zones were to have installed meters by 2010 and 2011.

For the Middle Motueka, Dove, Stanley Brook, Baton and Abel Tasman Zones listed in the Schedule, the dates in the plan are slightly more stringent than the transitional regulations. All users were to have installed meters by 2014.

Some zones including the Aorere, Buller, Takaka and Moutere Surface consents are not included required by the Plan currently to install meters, although a number of these takes have been required to install meters through consent conditions. The permits in these Zones will be subject to the transitional provisions (unless Council makes more stringent requirements).

5.3 Implementation

A clear instruction about adoption of the water metering implementation dates specified in the regulations is required. The following regime, consistent with the regulations will be adopted unless Council indicates alternative instructions:

- The dates specified in the TRMP for water meters will no longer apply for the listed zones - the regulation dates will apply for all new and as yet unmetered takes.
- For existing takes that are already metered, the regulations apply in respect of when verification of the meter's accuracy is required.
- For existing and new takes greater than 5 litres per second in zones not previously listed in Schedule 31B and without a meter currently, the regulations apply as to the date by when a meter is installed or verified.
- for takes less than 5 litres per second not listed in Schedule 31B and without a meter currently, a new date of 10 November 2018 will be the date by which a meter is required (this was adopted as the preferred date see REP11-06-05).

- for takes less than 5 litres per second, previously listed in Schedule 31B and with or without a meter currently, a new date of 10 November 2018 will be the date by which a meter is required or where it currently is installed, when verification is needed.

The TRMP amendments required to achieve this are shown in Appendix 2

5.4 Recommendation

That the TRMP Schedule 31B requirements be amended to be consistent with the provisions of the Measurement and Reporting of Water Takes Regulation 2010.

6. Water Meter Specifications for Small Takes

- 6.1 Council has already indicated a preference to require regulation water meters for takes smaller than 5 litres per second.

The regulations specify the requirements for complying water meters. They are largely consistent with what the Council already requires, but introduce a verification process that will assist the Council in making sure data collected is accurate.

The regulations also require meters to be capable of supplying data electronically. It is this aspect that may cause higher costs for water users taking less than 5 l/sec as not all existing water meters have this capability. Council has discretion to waive this requirement for small takes.

Council is continuing to maintain both manual and electronic water meter data collection systems. Requiring electronic capability while not actually requiring the electronic reporting is an unnecessary cost for water users with small takes.

6.1.1 Recommendation

That Council retain discretion not to require electronic reporting capability on water meters for takes less than 5 l/sec.

7. Recommendations

1. **That** all owners of dams who have consents to take water from the dam be provided with information about the two options to manage the water meter regulations and feedback sought as to their preferred option.
2. **That** the consent status for surface water takes in seasonally dry areas not be changed and that both the plan and the regulation requirements for water meters would apply to all consented water takes.
3. **That** the TRMP Schedule 31B requirements be amended to be consistent with the provisions of the Measurement and Reporting Of Water Takes Regulation 2010

4. **That** Council retain discretion not to require electronic reporting capability on water meters for takes less than 5 l/sec.
5. **That** Council release for public consultation the Policy Options Paper (Appendix 1) with amendments to that paper to include:
 - the description of the issues and options arising from management of water takes from storage and water takes in the seasonally dry zones including the Moutere Surface Water Zone contained in this report, and
 - the preferred options identified in Recommendations 1 - 4 above.

8. Draft Resolution

THAT the Environment & Planning Committee receives the Report MEASUREMENT AND REPORTING OF WATER TAKES REGULATION 2010 (Takes from Storage, Surface Water Takes in Seasonally Dry Areas and Release of Policy Options Paper (Water Metering)) REP11-08-11 and adopts the recommendations.



Mary-Anne Baker
Policy Planner

Appendices:

- Appendix 1 Policy Options Paper: Water Metering
Appendix 2 Tasman Resource Management Plan Draft Amendments

POLICY OPTIONS PAPER
Implementation of Measurement and Reporting of Water Takes Regulation 2010
and
(Draft) Proposed Change to the Tasman Resource Management Plan
August 2011

1. Purpose of report

The purpose of this policy options paper is to describe issues arising from the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 and to identify preferred options for amending the Tasman Resource Management Plan

The report provides information about the implications of the new regulations for Council and water users in Tasman District. The options preferred by Council are developed further into draft amendments to the Tasman Resource Management Plan (TRMP) and are shown in Appendix 2.

2. Background

Central government has passed the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 which came into effect on 10th November 2010. The Council is required to implement and monitor the regulations.

2.1 Summary of the Regulations

New regulations in respect of water metering and reporting apply to the taking of water. The key features of the regulations are specifications for:

- a) Where regulations will apply
- b) Water meters
- c) Reporting of information

The regulations prevail over a regional rule or condition of a water permit. However, a rule in a plan or a resource consent condition that is more stringent will prevail over the regulations. The only exception is the requirement to report annually to the Council, which will apply in addition to any other reporting requirement by the Council or through a consent.

Unlike the National Environmental Standards which often require either plan changes or consent conditions reviews, regulations under s360 of the Resource Management Act (RMA) will apply automatically from the effective date to 67% of current water permits in Tasman and immediately to new applications.

2.2 How the Regulations Apply

The regulations only apply to water takes that need a resource consent.

Permitted activity takes under the TRMP Tasman Resource Management Plan (the Plan) do not need meters under the regulations. The regulations also do not apply to consented takes:

- a) taking less than 5 litres per second, or
- b) for geothermal or coastal water, or
- c) that are non-consumptive (i.e. when the same amount of water is returned back to the same water body, at or near the location from which it was taken, without significant delay).

3. THE PRESENT SITUATION

TRMP Policy 30.2.3.13 and rules through Schedule 31B currently require the majority of consented takes to install a meter although installation is according to a timed schedule depending on which zone the take point is in.

A decision was made by Council in 2008 to suspend requirements for metering as specified in Schedule 31B to await the outcome of the National water metering regulation.

The Aorere, Buller, Takaka and existing Moutere surface water take consents are not specifically required by Schedule 31B of the TRMP to install meters. However, a number of takes (in zones other than the Moutere Surface Zone) have been required to install meters through consent conditions as the Plan retains the discretion for meters to be required in any zone where it is appropriate to do so.

The TRMP does not require takes from storage to be metered but it does usually require meters on takes from surface water or groundwater bores to storage. The regulations require meters on consented takes from storage.

The Plan describes the performance requirements for a water meter in the meanings given in Chapter 2. The water meter required by the TRMP is different from that required under the regulations.

A summary of water permit statistics in relation to the current provisions and those of the regulations is provided in Table 1.

Table 1 Total number of consents and water meter status

	>20litres/ second	10-20 litres/ second	5-10 litres/ second	Takes <5 litres per second (regulation does not apply)	Total
Total with Meter	117	239	169	215	740
Total without Meter	84	146	172	229	631
Total	201	385	341	444	1371

4. ISSUES AND OPTIONS FOR TASMAN

There are a number of differences between the regulations and what is currently required by the Council in respect of water measuring and metering. The differences are explained in more detail below and include differences in respect of:

- a) metering requirements for takes less than 5 litres per second
- b) metering requirements of takes from storage
- c) specification of rates of taking in litres per second
- d) timelines for compliance with regulations
- e) water meter specifications including verification requirements
- f) reporting information

The Council has considered options, including plan changes, to deal with some of the issues that have arisen. The options are described further below and this paper identifies the preferred options.

5. TAKES MORE THAN 5 LITRES PER SECOND (Regulation 4)

The regulation only applies to takes more than 5 litres per second.

5.1 Implications

Apart from permitted takes, the TRMP rules for consented takes do not distinguish between sizes of the water take and applies the need for water meters for all consented takes where meters are deemed to be required.

A water take of 5 litres per second can irrigate up to 10 hectares and smaller rates of take are common across the District (refer Table 1). They can also have a significant cumulative impact on water resources. Nearly one third of all consented takes are less than 5 litres per second.

One situation where permitted takes are required by TRMP rules to be metered is for takes from the Moutere Groundwater Zones, where the aquifer is very sensitive to damage by over-extraction of water and the exact environmental limits are not precisely known. Meter data is collected annually from most users. This report does not review the need for meters or any changes to the installed meters for permitted takes in this case.

The Council will firstly need to make decisions about water meter requirements for **takes less than 5 litres per second** for:

- (i) new applications
- (ii) existing takes that currently have a water meter which does not meet the regulation specifications
- (iii) existing takes that currently have no meter, but are required to install one through Plan provisions or consent conditions (Schedule 31B)

The transitional timing requirements for existing takes are discussed further in Section 6 and the type or specification of the meter required is discussed in Section 7.

5.2 Options

Option 1: Water meters continue to be required for all consented takes as per existing TRMP policy - (but compliance dates amended as necessary to provide for transition consistent with both the regulations and existing provisions, see section 6 below).

Option 2: No water meters will be required for takes less than 5 litres per second.

Preferred Option

Option 1 - That water meters continue to be required for all consented takes (including those less than 5 litres per second) as per existing Council policy. The changes required in the TRMP to enable this approach are given in Appendix 2.

6. TRANSITIONAL PROVISIONS and COMMENCEMENT OF REGULATION (Regulation 13)

Application of the regulation depends on the date consent is granted. Consents granted from 10 November 2010 onwards must comply straight away.

There are transitional provisions for consents granted before 10 November 2010 (including renewal of these consents) which depend on the allowed rate of take in litres per second as assessed as per the requirement of the regulation. Takes of:

- a) 20 litres per second or more: need to comply by 10 Nov 2012
- b) 10 to 20 litres per second: need to comply by 10 Nov 2014
- c) 5 to 10 litres per second: need to comply by 10 Nov 2016

The regulations replace in part the TRMP provisions of Schedule 31B. The regulations do not have any transitional requirements for takes less than 5l/sec.

6.1 Implications

The TRMP provides a metering schedule (Schedule 31B) for the different catchments/Zones in the district. Implementation of water meter requirements according to this schedule was put on hold by Council two years ago pending the outcome of the regulation. The regulations make the specified dates where they are beyond the TRMP specified dates largely redundant as regulation is now by size of take and date.

Several Zones including the Upper Buller, Takaka and Aorere/West Coast Catchments and Moutere Surface Water Zones are not listed in the schedule (a total of about 165 consents) However, many of these are already metered including where the resource is approaching or has reached the default allocation thresholds such as for the Mangles and Owen Rivers, and the Arthur Marble Aquifer recharge zone in Takaka. Specific water management provisions, which will include allocation limits, are in development for Takaka.

Schedule 31B must be amended to reflect the transitional requirements of the Regulations. It must also provide the transitional requirements for takes less than 5l/sec.

215 water meters are not subject to the regulations but currently have meters required under plan rules. A further 229 do not currently have meters, but many would be required to install one under plan rules as zones come up for review (as specified in Schedule 31B. Some 444 permits for takes less than 5l/sec will require a new meter or verification of an existing meter.

Because the requirement for water meters for small takes is not part of the regulations, some changes to the rules are necessary to enable council to impose water meter requirements in a consistent manner.

6.2 Options

The transitional requirements for meters for small takes less than 5l/sec that are not already provided for by the TRMP according to the zone they are in could be required in association with:

- the permit expiry,
- by a set date.

1. Permit Expiry

The water meter requirements for small takes less than 5l/sec could be phased in over time according to when each permit is renewed. The dates for small takes will vary from 2011 to 2020 depending on the zone.

If linked to permit expiry, the holders may get less time than that allowed for by the transition provisions for the larger takes and it also adds to the work load as staff also need to ensure the regulations are applied to all the larger takes

2. Set Date

A set date established as a district wide requirement for meters for small takes not already covered by Schedule 31B is most aligned to the transitional requirements of the regulations and means upgrades or verification are not required before the larger takes are dealt with. The suggested date is November 2018. This is an additional two years beyond the dates specified in the regulations for takes more than 5 litres/sec.

This option provides an ordered and manageable timeline for staff and water permit holders.

Preferred Option

Option 2 - requiring (verified accurate) water meters for takes less than 5l/sec by November 2018; as it fits in with the regulation transition provisions and enables a programmed approach to be taken that is consistent for all permits.

7. WATER METER SPECIFICATION (Regulations 6, 7 and 10)

The regulations replace specifications given in Chapter 2 of the Plan for takes greater than 5 litres per second.

Where the regulations apply (takes greater than 5 litres per second) then the consent holder must install and maintain an accurate water measuring device or system (including a water meter) that :

1. keeps continuous records of all water taken covering each water year
2. keeps daily records in cubic metres of the volume taken (Regional Council could give written approval for weekly records see section 8. below)
3. keep records specifying “zero” cubic metres when no water is taken
4. keep records in an auditable format
5. provide (report) the annual record to the regional Council
6. the water measuring device needs to be verified as accurate by a person who is qualified in the regional council’s opinion. Verification is required initially, and then every five years (regulation 7)
7. be installed at the point where water is taken or seek written approval from the regional council to locate the device *as near as practicable* to this point (regulation 10)
8. measure the volume of water taken to within +/- 5% of the actual water taken for water taken by a full pipe, or +/- 10% for other takes including by open channel or a partially full pipe

9. be able to provide data in a form suitable for electronic storage. This is not a requirement to fit an electronic data logger. However, the meter must be capable of being fitted with an electronic data logger, i.e. the meter must provide a suitable output signal that can be measured by electronic data loggers, and must have suitable data transfer port(s).
10. be suited to the qualities of the water being measured (ie. sediment or iron content, debris,);
11. be sealed and be as tamper-proof as practicable

MfE, in association with Irrigation NZ and Water NZ, is developing a New Zealand Qualifications Authority (NZQA) based certification process. Once developed, verifiers and installers of water meters will be required to certify under this process. The above parties are confident that the certification process will be in place before the end of this year and certifications will be completed by early next year.

As per the regulations, if water meters in existing consents have been verified there is no need for an additional verification other than the 5 yearly verifications. All new takes granted after 10 November 2010 will require an initial and then subsequent 5 yearly verification.

Information about water meters is given in Appendix 4

7.1 Implications

7.1.1 Takes less than 5 litres per second

The Council must consider if meters for takes less than 5 litres per second are to be subject to the same meter specifications as the regulation.

7.1.2 Verification

The Council already specifies many of the water meter performance requirements required under the Regulation including for accuracy. However, the regulations are more stringent and specific with regard to the requirement for verification. The capability for providing suitable output signal that can be measured by electronic means is also a more stringent requirement. Existing meters may be proved accurate, but may also need to ensure they provide suitable output signals.

The requirement for verification has cost implications for nearly all permit holders in Tasman and for some the cost may be significant if meters are not accurate and need replacing.

7.1.3 Recording and reporting

The current system in Tasman of continuous measurement and recording manually weekly readings is consistent with the regulations, as this information is electronically stored by Council. The Council will need to amend its requirement beyond the current “summer months” to requiring reading for the entire year.

The regulations also allow for where electronic data or signals are stored or transmitted by data loggers or telemetry systems. Some water users already provide water meter data in electronic format and Staff have compiled a list of the data formatting options that the Council’s database system will require and accept from consent holders

7.2 Electronic Recording and Reporting

The Council can consider whether electronic provision (i.e. times stamped and continuously measured) of data is part of the long term strategy of managing water meter data for all users. It could also distinguish between the larger water takes and small takes less than 5l/sec.

Neither the Council nor the Regulations is requiring electronic data monitoring including logging i.e. signals which can be stored and/or transmitted by data loggers or telemetry systems, but the regulations enable the Council through its regional plan to consider this as a management option for all or some water takes.

The early water meters in Tasman in the 1980s are now aging and may not meet the required accuracy.

Even some of the more recently installed meters may not meet the regulation requirements in having capability to provide data in a form suitable for electronic storage.

The Council is not (yet) moving to a fully electronic system and will continue to receive and manage both continuous measured data (e.g. from logging devices) and manual records. The regulation requiring the meter to be able to provide data in a form suitable for electronic storage adds additional costs to permit holders as many older meters would not have this capability.

The regulations do not require fitting of an electronic storage device (e.g. electronic data logger), so fitting one is a further added additional costs.

The additional cost may be avoided for takes less than 5l/sec as Council has some discretion about the extent to which the regulations apply. Some of these small takes may already have accurate meters.

Information about options for water meters is given in Appendix 4.

Auditing and managing electronic data is different to the mechanical meter reading system currently used by the majority of water users.

Council is currently further developing systems for managing, auditing and securing electronic data as more water users see the benefits of electronic recording and reporting. Of note also is that electronic logging systems require security set up so that the data recording is not tampered with and this is likely to be a Council or accredited installer/data consultant role with clear audit requirements.

The benefits of having data loggers or telemetry/cellphone can outweigh any disadvantages such as additional cost of installation and any ongoing telemetry/cellphone line cost. All records are stored or transmitted continuously water users do not have to record any data manually on a regular basis. In fully or over-allocated catchments, during low surface water flow or low aquifer level conditions, the assistance of online data (e.g. via dataloggers or telemetry/cellphone) enables management of minimum flows, and ground water levels more efficiently and effectively.

While manual recording of meter data is currently most common and still provided for, Council can expect to see a move towards more automated and electronic systems over time. The regulations provide a good starting point for raising awareness and standards of recording and reporting. Over time, new larger takes in sensitive areas will be required to install electronic recording and reporting systems.

No Plan changes are required, although Council will reflect an acknowledgement of the benefits of electronic data recording and reporting in the Plan.

Council will need to manage both electronic and manual water meter readings for some time.

7.3 Verification

The regulation requires that the **water measuring device be verified** as accurate by a person who in the regional council's opinion is qualified to do so.

The value of water meter data is dependent on its accuracy, reliability and completeness. The focus of the regulations on the accuracy and verification of meters provides a process and a method for ensuring this value is achieved and is in fact consistent with Council rules.

Overall 927 consents would have to comply with the new regulations (Refer Table 1). 525 of these are already metered under Council's current provisions. An additional 215 water meters are not subject to the regulations but currently have meters required under plan rules

The Council has no current process or method to determine how many of our existing mechanical meters are complying with the +/-5% accuracy but staff estimate compliance will be achieved by roughly 50- 70% of existing meters. Non-compliance with the +/-5% accuracy is especially likely where the water quality is poor e.g. irony, gritty water e.g. some deep Moutere bores and where the meters are older i.e. more than 10years old.

Addressing the issue of meter (in) accuracy in Tasman can now effectively be carried out by the Council. The regulations now provide the national basis for independent verification requirements including requiring suitably qualified persons to undertake and report on this work.

The Council with the support of the irrigation industry will need to adopt processes and procedures to implement the regulations having regard to the availability of qualified persons, the timing of permit expiry, and the transition provisions specified in the regulations and the TRMP.

The regulations do not require that the **installation** is verified or carried out by a qualified person. However, the proper and appropriate installation of the meter is of critical importance in the maintenance of accurate water meter information and most consents requiring metering require as a condition that the meter be installed in accordance with the manufacturer's specifications. The irrigation industry has separately recognised the need for training of installers and is offering training and accreditation for installers as well as for the meter verifiers.

Council does not have the resources to set up or to carry out the accuracy verification on all meters that need to meet the regulation requirements in the Tasman District. To do so would require additional staff and further training and resourcing.

The Council considered providing this as a service but acknowledged the effort involved in training and accrediting is likely to be considerable and besides, the work being done by the industry and the Ministry means that it would be counter-productive for the Council to do this.

The more cost effective and practical approach is to defer to industry accreditation - Irrigation NZ is already setting accreditation courses on this.

Council also needs to consider the requirements for the installation to be done by a properly qualified person. Again industry is managing this need also but the plan will need amending to reflect this as a consent condition matter.

7.4 Options

Option 1: Require **all** water takes (including those less than 5 litres per second) to be subject to a water meter requirement that is consistent with the regulations.

The regulations provide a more robust approach than the TRMP to ensuring water meters continue to provide accurate information. The regulations are supported by development of an accreditation system for water meter verifiers. The need for meters that allow for future electronic recording will assist Council to manage increasing amounts of data effectively and efficiently.

Applying the more stringent specifications to all water takes ensures equity between users,

A consistent standard across all water takes avoids confusion.

The main costs (additional to what is required by regulation) are in relation to any upgrades required by permit holders where the take is less than 5 litres per second.

Option 2: Require **all** water takes (including those less than 5 litres per second) to be subject to a water meter requirement that is consistent with the regulations, except for the requirement for the meter to be able to provide data in a form suitable for electronic storage..

The regulations provide a more robust approach than the Council Plan to ensuring water meters continue to provide accurate information. The regulations are supported by development of an accreditation system for water meter verifiers.

The need for meters that allow for future electronic recording will be a discretionary matter available to the Council for takes less than 5 litres per second but will not be a requirement unless required to manage the water resource and the increasing amounts of data effectively and efficiently.

Applying the more stringent specifications to all water takes ensures equity between users,

A largely consistent standard across all water takes avoids confusion.

The main (additional) cost in relation to any upgrades required by permit holders where the take is less than 5 litres per second is avoided for some takes.

Option 3: Continue with the TRMP provisions for water meters (water meter specification and verification is different from the regulations).

The potential for confusion is high amongst users, the irrigation industry and within Council. This approach is less robust and provides potentially less accurate data.

7.5 Preferred Option

Option 2: That all consented water takes (including those less than 5 litres per second) be subject to a water meter requirement that is consistent with the regulations, except that Council retains discretion not to require the capability for electronic outputs Council will continue to promote and develop electronic data recording and reporting procedures and systems and to promote electronic measures especially for large water takes.

8. RATE OF TAKE (Regulation 5)

The regulation states that if the consent specifies a maximum rate in litres per second then that is the applicable rate. If hourly, daily or other volumes are specified in the permit, they are to be converted to litres per second with the highest value calculated applying.

8.1 Implications

Water permits issued by the Council can vary in how the take rates are specified and the Council has reviewed some water permits to calculate whether the regulation applies or not (this information is incorporated into table 1).

In most cases Tasman consents have hourly, weekly and average daily volumes specified in cubic metres. Daily rates are the average rate based on the consented weekly rate. Daily rates are the basis for Section 36 annual charges. Maximum daily rates are only critical in cases of surface takes from rivers where management regimes such as rostering require them to be more exact. Hourly rates are instantaneous maximum rates but are expressed as cubic metres per hour rather than litres per second.

Most water takes in Tasman are from groundwater. For most groundwater consents the instantaneous or hourly rate sought are often imprecise when a consent is applied for and before any water meter is installed. These rates can also vary for scheme efficiency reasons including the groundwater level at the time. The instantaneous or hourly rate varies depending on factors such as the efficiency of the pump, the distance from the pump to the water level etc.

The adopted approach in Tasman is for most irrigation consents, to grant the maximum soil based irrigation rate for the soil being irrigated and not grant what an individual crop requires. For example, for the Hau soil type an applicant is granted the full 350 cubic metre/ha/week rate regardless of the land use. For the groundwater bores it is combined with the available sustainable pumping rate available from the bore, and it is this latter rate that is generally the limiting factor.

Calculating the instantaneous rate from the daily and weekly rates specified on the permits will therefore often result in a different rate than the water user is actually taking. It is possible that some permit holders will seek to review consents to reassess rates of take calculated as per the regulations. It is less likely in fully allocated zones particularly if there is a reduction in the rate and if the permit holder is unlikely to get the water back if their crop needs changed. The rate of take information will enable water permit holders to assess when a compliant water meter is required.

Varying a water permit is at a cost to the consent holder. However, the consent holder needs to be sure that the take rate specified in litres per second is the actual amount - so compliance issues do not arise and the requirements of the regulations are certain.

8.2 Preferred Action

No TRMP amendments are required.

9. RECORDING AND REPORTING INFORMATION (Regulations 6,8 and 9)

The permit holder must **record** the volume (in cubic metres) of water taken each day, or each week if a council specifies this frequency in written notice to the consent holder. The weekly reading is required for all 52 weeks of the year. If no water is taken, this has to be recorded as zero cubic metres.

Annual records must be **reported** to the Council under the regulations even if the Council requires records by a different date or covering a different period. The annual records have to:

- be provided for each year of the consent
- cover the period 1 July - 30 June
- be provided to the regional council no later than one month after this period (i.e. by 31 July)
- be provided (reported) in writing, or electronically if requested by the regional council

9.1 Implications

Current reporting required by Council is weekly from mostly manually read meters, with records required between 1 November and 30 April every year for irrigation takes. (Zero readings are assumed for the remainder of the year, and this can be checked with any meter audit at the beginning of the next irrigation season). Council does not currently routinely require electronic (continuous & time stamped) data submission.

It is likely that as consent holders come under the regulation requirements they may over time opt to install logging devices and submit data electronically. Additionally it is conceivable that some consent holders may install telemetry via cell phone technology or use the internet to avoid the weekly meter reading requirement.

Data management electronically offers both Council and water users many advantages and would be more efficient in the long term. However, for most users the Council is unlikely to require data at more frequent intervals than the current weekly readings. This is because consent compliance and water management, during drought conditions is based on weekly volumes and this approach has proved effective.

Compliance and management responses based on weekly volumes have proved sufficient and appropriate so far and staff have no recommendation to change this.

9.2 Options

The Council could chose to adopt the more stringent daily recording requirements of the regulations for all consent holders, but this is not considered to be a useful or necessary change at this stage.

The exceptions may be for surface water systems where rostering of takes is required e.g. Riwaka River, Brooklyn, Little Sydney etc, Also for some Upper Buller consents to comply with rationing requirements that specify maximum takes are less than 5% of the actual flow river flow under the (Buller River) WCO. These situations can be addressed as and when necessary when permits are renewed.

9.3 Preferred Option

That Council advise all consent holders in writing that weekly readings continue to be required and that a daily reporting requirement is not imposed requirement unless more frequent reporting requirements are specified in a resource consent.

A description of the water meter data recording and reporting systems are to be included in the Plan for information purposes.

TASMAN DISTRICT COUNCIL
PROPOSED TASMAN RESOURCE MANAGEMENT PLAN
(DRAFT) PROPOSED CHANGE NO.S 32 & 33

**Part I: Introductory &
Part V: Water
Water Metering**

Notified 2011

EXPLANATORY STATEMENT

New Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 came into effect on 10th November 2010. The Council must implement these regulations.

The Council already has a range of policies and rules relating to water meters. It has progressively required water metering throughout the district to manage the allocation and taking of water. Water meter data is used to gather information about water use, and ensure compliance with water permits. Water meter data also provides information to describe the nature and extent of our water resources and help develop and enhance models (groundwater/surface water) that inform effective water management decision making.

The regulations impact on how Council manages water meters. Changes are required to the TRMP to align the Council's water management provisions with the regulations.

ISSUES

There are a number of differences between the regulations and what is currently required by the Council in respect of water measuring and metering. There are differences in respect of:

- a) metering requirements for takes less than 5 litres per second
- b) metering requirements of takes from storage
- c) specification of rates of taking in litres per second
- d) timelines for compliance with regulations
- e) water meter specifications including verification requirements and electronic recording of data
- f) reporting information

The Council has considered options, including plan changes, to deal with some of the issues that have arisen. The options are described further in reports EP11/06/05 and REP11-08-08 and this plan variation is based on the preferred options identified in those reports.

CONSEQUENTIAL AMENDMENTS

There are a couple of consequential amendments made to Part II in respect of meanings for words. These constitute **Change 32**

EVALUATION OF ALTERNATIVES UNDER SECTION 32 OF THE RESOURCE MANAGEMENT ACT

The Council has considered the requirements of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 in relation to existing Council policy and rules.

It has reviewed options for existing water meter requirements for those water takes that are both outside and within the scope of the regulations and has considered the impact of the regulations on them. It has considered the alternative options, benefits and costs, and effectiveness efficiency and appropriateness of these amendments. The key Section 32 reference documents for Variations and Change are;

EP11/06/05 Water Metering
EP11-08-08 Water Metering (Takes from Storage and Surface Water Takes in Seasonally Dry Areas); Policy Options Paper and Draft TRMP Amendments.

AMENDMENTS

The Tasman Resource Management Plan is amended in accordance with the following schedule. Where amendments are to existing text, the changes are shown by strikethrough or underlining.

CHANGE 32 PART I INTRODUCTORY :

1. Delete meaning for Water Meter

~~Water Meter – in relation to the provisions of Part V, means a device that meets the following specifications:~~

~~(a) Meter Accuracy and Registration~~

- ~~(i) The meter must record water used to an accuracy of plus or minus 5 percent.~~
- ~~(ii) Meter operating flows must comply with those recommended by the manufacturer and shall be such that the above accuracy is maintained.~~
- ~~(iii) An easy to read and hermetically sealed register, with a six-figure cubic metre reading, is desirable. As a minimum, it is sufficient to record the annual pumpage without “rolling over” through zero.~~
- ~~(iv) Registers and mechanisms must be able to be readily replaced with minimal delay or alternatively, in the event of malfunction, a spare meter or some other method acceptable to Council shall be provided, thereby permitting an uninterrupted record of water usage.~~
- ~~(v) Meters must be so designed that any reverse flows will be measured and be automatically deducted on the register.~~
- ~~(vi) The meter register must be able to be locked (sealed) to identify and discourage external access by unauthorised people.~~

~~(b) Meter Installation and Maintenance~~

- ~~(i) The meter must be installed in accordance with the manufacturer’s specifications and must be operated and maintained so that Council’s requirements are met~~

2. Insert new meaning for water meter:

Water meter in relation to the provisions of Part V, means a device or system that;

1. takes continuous measurements
2. keeps records
 - a. in cubic metres
 - b. specifying “zero” when no water is taken
 - c. in an auditable format
 - d. that must be able to be combined to cover each water year of the permit,
3. measures the volume of water taken
 - a. to within +/- 5% of the actual volume taken for water taken from a full pipe, or

- b. to within +/- 10% of the actual volume taken for water taken by another method (including an open channel or partially full pipe)
- 4. for takes greater than 5l/sec is able to provide data in a form suitable for electronic storage,
- 5. is suited to the qualities of the water it is measuring (such as temperature, algae content and sediment content)
- 6. is sealed and is as tamper-proof as practicable.
- 7. is installed
 - a. at the location from which the water is taken; or
 - b. at the location specified by any approval granted in writing by the council
 - c. by a person who is appropriately accredited¹ to install water meters.
- 8. has been verified as accurate by a person who is appropriately accredited¹ to verify the accuracy of water meters. Verification is required in the first year of the water permit and thereafter at any time in the five year period ending when that water year ends.
- 9. Appropriately Accredited in relation to installation and verification of water meters is accreditation under the Water Measurement & Reporting Industry Accreditation Programme (Irrigation NZ; February 2011)

CHANGE 33 PART V

1. Delete Policy 30.2.3.13

~~30.2.3.13 [30.2.11 Proposed]~~

~~To require water meters to be used by water permit holders:~~

- ~~(a) to ensure compliance with permit allocations or allocation limits; or~~
- ~~(b) when there is full allocation of water in a zone; or~~
- ~~(c) when there is a need for water use data to assess effects of abstraction on a water resource or in relation to an allocation limit; or~~
- ~~(d) in any zone where there is a rationing trigger; or~~
- ~~(e) to require efficient use of water.~~

2. Insert new policy:

- 30.2.3.13** *To require water meters to be used and water take and use data to be reported to Council by water permit holders in accordance with national regulations and in order to:*
- (i) ensure reliable data is available for making good resource management decisions including through the use of computer models;*
 - (ii) enable monitoring for compliance with resource consents;*
 - (iii) manage effects of takes on the environment, including where there is a rationing trigger or minimum flow requirement;*
 - (iv) enable efficient use of water*
in respect of any water take:
 - (a) that is authorised by a consent or*
 - (b) when there is a need for water use data to assess cumulative effects of abstraction on a water resource or in relation to an allocation limit, including for permitted takes from the Moutere Groundwater Zones*
- and to develop electronic data management systems that allow for electronic recording and reporting by water users.*

3. **Insert** a new Policy:

30.3.3.X *To regulate the damming, taking and use of water from dams in such a way as to allow dam owners to make decisions about security of supply for consumptive water takes, efficient water use and bona fide use while managing the adverse effects on the environment of damming on the river and connected water bodies, including cumulative effects, effects on aquatic ecosystems and adverse effects on downstream water users.*

4. **Amend Regulatory method 30.2.20.1(e):**

(e) ~~To require water meters in accordance with national regulations and Policy 30.2.3.13 that comply with National Environment Standards, including as far as practicable, draft standards, and to progressively upgrade existing water meters in a manner consistent with the transitional provisions of the regulations and including for consented takes less than 5l/sec. where necessary in a timeframe that is, as far as possible, consistent with renewals of existing water permits.~~

5. **Amend Principal Reasons and Explanation 30.2.30**

Water meters enable Council to monitor compliance with resource consents and also provide information to assess Plan compliance. Water meter data also improves knowledge about the District's water resources and water use patterns and can be used to help in achieving efficient water use. National regulations also require water metering for takes greater than 5 litres per second.

~~Water meters will continue to be required, including where there is full or close to full allocation of water, and in accordance the National Environment Standard for the measurement of water takes for all consented takes including takes less than 5l/sec and also including permitted takes in sensitive water management zones such as the Moutere Groundwater zones where there is a need to monitor total abstraction. Non-consumptive takes may also be required to meter water usage, particularly where there are likely to be significant adverse effects and to enable compliance with consent conditions to be monitored.~~

The Council is continuing to develop secure electronic data management and reporting systems as more water users see the benefits of electronic recording and reporting. While manual recording of meter data is currently most common and will continue to be provided for, especially for takes less than 5 litres per second, the Council expects to move towards more automated and electronic systems over time. The regulations provide a good starting point for raising awareness and standards of recording and reporting. Over time, new larger takes and those in sensitive areas could be required to install electronic recording and reporting systems.

The Council will also continue to require reporting of water meter data on a weekly basis. This is because consent compliance and water management, including during drought conditions is based on weekly totals and this approach has proved effective. Exceptions to this regime include where rostering is required at low flow and for situations where compliance with flow sharing provisions is required such as for the Buller Water Conservation Order.

6. **Delete** from matter (10) in Rule 31.1.7.2 reference to Figure 31.1D and **replace** with reference to Schedule 31B (*this is a correction of an error*)

7. **Delete** Schedule 31B:Water Meter Requirements

8. **Insert** new Schedule 31B: **Water Meter Requirements** (note that the provisions in the shaded boxes are not subject to submissions as they are the requirements of the National Regulations)

Schedule 31B: Water Meter Requirements	
Refer to Rules 31.1.2.1, 31.1.2.2, 31.1.2.3, and 31.1.2.5. The Council will impose conditions for water meters on water permits to take and use water as follows:	
Rate of take for consumptive use in litres per second. (All Zones)	Dates by which Water Meters are Required for Consumptive Takes¹
>20	10 th November 2012
10 - 20	10 th November 2014
5 - 10	10 th November 2016
<5	<u>10 November 2018</u> or <u>upon application under Rule 31.1.2.2, to renew any existing consent².</u>
<u>Other (non-consumptive) takes</u>	<u>Upon application (refer to Policy 30.2.3.13)</u>
¹ Where water meters already exist, these dates specify the date by which verification must be completed. ² This provision allows for current water permits for takes less than 5l/sec in the Takaka, Upper Motueka, Upper Buller which will be renewed after November 2018	

9. **Insert** into rule 31.1.2.1 a new condition;

- (n) *Except as regulated by Rule 31.1.4.1(c), the taking and use of water from a dam impoundment is not limited, provided:*
- (i) *the take is from a constructed dam impoundment*
 - (ii) *a minimum of 400 cubic metres of stored water is retained within the dam impoundment, to provide for eel survival*

10. **Delete** Rule 31.1.2.4

31.1.2.4 Controlled Activities (Take from Storage) [31.1.5 Proposed]

The taking of water from storage that does not comply with the conditions of Rule 31.1.2.1 is a controlled activity, if it complies with the following conditions:

- (a) The take is from a constructed pond, reservoir, or dam.

A resource consent is required, and may include conditions on the following matters over which Council has reserved control:

- (1) Effects of the take on aquatic and riparian ecosystems, including in the impoundment, and upstream and downstream of the take.
- (2) Effects of the take on other uses and values, including those given in Schedule 30A of the water body and those of connected water bodies such as groundwater, springs or wetlands.
- (3) Effects on other water users.
- (4) Effects on fish and eels, including entrainment in pipes.
- (5) Information to be supplied and monitoring, including water meters required.

- ~~(6) The quantity, rate and timing of the take.~~
~~(7) Efficient use of water, including application rates for irrigation appropriate to the soil type.~~
~~(8) The duration of the consent as provided for in Schedule 31A (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).~~
~~(9) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).~~

11. **Insert** into Rule 31.1.4.1 (Damming Water (permitted activity) the following new condition;
“(c) *The taking of water from the dam impoundment does not exceed the quantity specified in Figure 31.1A.*
12. **Delete** from 31.1.20 (Principal Reasons for Rules) paragraph 6
Water takes from constructed storage ponds, dams or reservoirs are also likely to have less significant adverse effects on the environment and these activities will be controlled activities provided for in Rule 31.1.2.4.
13. **Insert** after paragraph 8 in 31.1.20 (Principal Reasons for Rules) the following new sentence:
“Water meters are required by national regulations for all consented takes greater than 5litres per second. The Council will continue to require water meters for consented takes less than 5litres per second as the effects of taking this amount of water can be significant on its own or in combination with other takes. Water meters allow monitoring for compliance and for collection of water use data to assist in decision making and add to understanding about the water resources of the district and the cumulative impacts of water takes.
Water takes from dam impoundments will be permitted activities to reflect the policy direction to promote water augmentation and to allow dam owners to make decisions about security of supply. Adverse effects of dams including cumulative effects and effects on downstream water users will be managed through conditions on consents to dam water.