

BEFORE THE CANTERBURY REGIONAL COUNCIL

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

an application by **Aviemore Limited** filed under **CRC083692** to take and use water from Lake Aviemore for irrigation of 35ha of pasture on Aviemore Station.

---

REPORT AND DECISION OF HEARING COMMISSIONERS PAUL ROGERS,  
MICHAEL BOWDEN, DR JAMES COOKE AND EDWARD ELLISON

PART B - SITE SPECIFIC DECISION

---

**TABLE OF CONTENTS**

1	INTRODUCTION .....	3
2	THE PROPOSAL .....	3
3	DESCRIPTION OF THE ENVIRONMENT .....	4
4	PLANNING INSTRUMENTS .....	5
5	NOTIFICATION AND SUBMISSIONS .....	5
6	THE SECTION 42A REPORTS .....	6
7	THE APPLICANT'S CASE .....	7
8	SUBMITTERS .....	12
9	UPDATES TO THE SECTION 42A REPORTS .....	13
10	APPLICANT'S RIGHT OF REPLY .....	14
11	STATUTORY CONTEXT .....	15
12	EVALUATION OF EFFECTS .....	15
13	EVALUATION OF RELEVANT PLANNING INSTRUMENTS .....	19
14	EVALUATION OF OTHER RELEVANT S104 MATTERS .....	21
15	PART 2 RMA .....	21
16	OVERALL EVALUATION .....	22
17	CONDITIONS .....	23
18	DECISION .....	23
	APPENDIX A: CONDITIONS OF CONSENT (CRC083692) .....	25
	PLAN CRC041031-A .....	32
	PLAN CRC041031-B .....	33

## 1 INTRODUCTION

---

- 1.1 This is a decision on an application by **Aviemoire Limited** (the applicant). It is one of many decisions we have made on 104 applications by various applicants for water permits and associated consents in the Upper Waitaki Catchment.
- 1.2 The decision should be read in combination with our Part A decision, which sets out our findings and approach to various catchment wide issues that are common to multiple applications. References to our Part A decision are made throughout this decision as appropriate.

## 2 THE PROPOSAL

---

- 2.1 The applicant owns Aviemoire Station, part of which is located adjacent to Lake Aviemoire. The applicant proposed to take water from Lake Aviemoire for the spray irrigation of 35ha of winter feed crops and pasture on this part of Aviemoire Station.
- 2.2 Water will be taken at a rate not exceeding 19 l/s, with an annual volume not exceeding 210,000 m<sup>3</sup>/yr, from Lake Aviemoire, between map references NZMS 260 H40:8931-1861 and H40:8990-1801. The exact location of the take was not specified as the applicant had not decided on how water would be abstracted from the lake.
- 2.3 The take of water will cease whenever the level in Lake Aviemoire is lower than 265.5 metres above mean sea level. A fish screen will be installed on the intake structure to prevent the entry of fish and the take of water will be metered.
- 2.4 The proposed annual volume does not include any provision for stock water for the property. The applicant is relying on their rights to abstract water for stock pursuant to section 14(3) of the RMA. The annual volume requested therefore is solely for "irrigation purposes" and is additional to the volumes permitted by section 14(3) of the RMA.
- 2.5 The indicative location of the proposed activities is illustrated in **Figure 1** below.



*Figure 1: Indicative Location Map*

## The application

- 2.6 The application is for a water permit to take and use surface water pursuant to section 14 of the RMA. Consent is required under the WCWARP as discussed below.
- 2.7 The application (CRC041031) was lodged with the Canterbury Regional Council (the Council) on 28 March 2008. This application was publicly notified and there were a number of submissions that are referred to later in this decision. The application requested a consent duration of 35 years.

## Modifications are notification

- 2.8 When initially applied for, the application proposed two alternative take points; one from Station Stream and one from Lake Aviemore. On 15 June 2009 the application was amended so that the applicant was only seeking to pursue the abstraction from Lake Aviemore. We have therefore not considered the proposed take from Station Stream in this decision.

## Related consents and applications

- 2.9 Application CRC083692 was lodged on 28 March 2008 to replace an existing consent (WTK750901), which authorised the abstraction of up to 25 l/s and 600 m<sup>3</sup> per week of water from Station Creek. Water taken under the existing consent was used to irrigate 2 ha of land within Aviemore Station for growing winter feed crops, using wild flood irrigation methods. This consent expired in June 2008, however the applicant is continuing to operate under this consent in accordance with s124 of the RMA.
- 2.10 Although this proposal is to replace an existing consent, we have not treated it the same as other replacement consents. The reason for this is that it proposes to irrigate a significantly larger area than that authorised by the existing consent (increasing from 2ha to 35ha) and proposes to take the water from a different source (Lake Aviemore rather than Station Stream). Nonetheless, we have taken the existing activities into account when considering the new proposal.
- 2.11 The applicant was asked to confirm if other consents would be required for the activity to occur. In particular, a land-use consent may also be required depending on the method of abstraction used. The applicant has not applied for a land-use permit for the installation or maintenance of the intake structure. They state that there are a number of options that may be used for abstraction, including options that would not require any works within the bed of the lake and therefore, would not require a land-use consent under section 13 of the RMA.
- 2.12 In addition to the above, the applicant has also applied for consent to take water from Lake Waitaki to irrigate a separate part of Aviemore Station (CRC041031). We have considered this application in a separate decision.

## 3 DESCRIPTION OF THE ENVIRONMENT

---

### Lake Aviemore

- 3.1 The applicant described Lake Aviemore in the AEE as having high aesthetic and recreational values. It is used extensively for recreational opportunities such as fishing, boating, camping and provides habitat for upland bullies, common bullies, long finned eel, brown trout, rainbow trout, sockeye salmon and Chinook salmon.
- 3.2 Environment Canterbury's GIS system identifies Lake Aviemore as a habitat for salmonids, freshwater fish and native birds. It also identifies the lake as a Wetland of Representative Importance (WERI); a Site of Special Wildlife Importance (SSWI); and an area of National Significance; and a Ngāi Tahu Statutory Acknowledgement Area.

### Irrigation Area

- 3.3 The proposed irrigation area is located on the true right bank of Lake Aviemore, located approximately 1.5 kilometres (km) east of the Otematata township. Irrigation will occur for a distance of approximately 1.5 km along, and on either side of the State Highway, should this consent be granted.
- 3.4 There is an artificial wetland area approximately 1.2 kilometres northwest of the proposed irrigation area. The wetland is identified on ECan's GIS system as 'Otematata Ponds'.

- 3.5 The applicant also advises that the Parsons Rock camping ground is located on the shores of Lake Aviemore adjacent to the south-eastern portion of the proposed irrigation area. There are no silient files within the proposed irrigation area or in the vicinity of the proposed intake location.
- 3.6 Further description of the environment is provided in our Part A decision and our summary of the evidence received from the applicants and submitters below.

#### Site visit

- 3.7 We detailed our site visits in Part A and we do not repeat this information here. We did not visit this particular property nor did our aerial reconnaissance fly over it.

## 4 PLANNING INSTRUMENTS

---

- 4.1 As discussed in our Part A decision, there is a wide range of planning instruments that are relevant under the RMA. This includes national and regional policy documents, along with regional and district plans. The key planning instruments relevant to this are as follows:
- (a) Waitaki Catchment Water Allocation Plan (WCWARP);
  - (b) Natural Resources Regional Plan (NRRP);
  - (c) Proposed and Operative Canterbury Regional Policy Statement (CRPS); and
  - (d) Waitaki District Plan (WDP)
- 4.2 The provisions of these planning instruments critically inform our overall assessment of the application under s104(1)(b) of the RMA, as discussed in Section 14 of this decision. In addition, the rules within the relevant planning instruments determine the status of the activity, as set out below.

#### Status of the activity

- 4.3 In our Part A decision we provide a detailed discussion of our approach to determining the status of activities. We now apply that approach to the current application.
- 4.4 This application was lodged after the WCWARP was operative. The following rules from the WCWARP are applicable to this application:
- (a) Rule 2, clause (1) - The applicant has proposed to adopt a minimum lake level for Lake Aviemore of 265.5 metres above sea level, in accordance with the requirements of the WCWARP as set out in Table 3, row (xvi) of the plan.
  - (b) Rule 6 – The activity is within the allocation limit of 275 million cubic metres for horticultural and agricultural activities upstream of the Waitaki Dam.
  - (c) Rule 15 – Classifying rule, discretionary activity.
- 4.5 In summary, the proposed water permit is a **discretionary activity** under Rule 15 of the WCWARP and requires consent pursuant to section 14 of the RMA.

## 5 NOTIFICATION AND SUBMISSIONS

---

- 5.1 This consent was notified in November 2008 and four submissions were received. These submissions are summarised in Table 1 below.

*Table 1. Summary of submissions on application CRC083692*

Submitter	Reasons	Position
Ruataniwha Farm Limited	Farm viability.	Support
A J Gloag	Farm viability. Sustaining ground cover and eliminating dust.	Support

Fish and Game New Zealand	Lack of detail regarding fish screens and cumulative impacts. Intensified land use and game bird impacts. Not opposed to the take from Lake Aviemore provided the proposal is consistent with WCWARP. Duration of 35 years not supported.	Oppose
Meridian Energy Limited	Derogation. Water quality. Stockwater. Effects on MEL infrastructure. Duration. Water metering. Sustainable management.	Oppose

## 6 THE SECTION 42A REPORTS

- 6.1 A section 42A report on the application and submissions was prepared by the Council's Consent Investigating Officer, Ms Rodrigo (Report 7B).
- 6.2 The primary report was supported by a number of specialist s42A reports prepared by Messrs Heller, Hanson, Glasson, McNae and Stewart, and Drs Clothier, Schallenberg, Meredith and Freeman. The key issues addressed by these reports were cumulative water quality effects, landscape effects, and environmental flow and level regimes.
- 6.3 All reports were pre-circulated in advance of the hearing. We have read and considered the content of the reports and refer to them as relevant throughout this decision. Specific points noted from the s42A report are summarised below.

### Ms Rodrigo

- 6.4 Ms Rodrigo considered that due to the changes in location of the take of water and increases to the scale of the operation with respect to the amount of water requested and the area of irrigation, the impacts associated with the proposal are likely to be greater than the impacts associated with the existing activity at this site. However she recognised that the applicant is proposing to convert to spray irrigation and has proposed to adopt the minimum lake level for Lake Aviemore, which will improve technical efficiency of the operation and recognises the natural values of the lake.
- 6.5 Ms Rodrigo considered that there were a number of outstanding issues associated with this proposal, as listed below:
- (a) *Surface water quality* - No impact assessment or measures to address the water quality impacts that could arise from irrigation at this site. Ms Rodrigo therefore considered that the impacts on water quality may therefore not be acceptable;
  - (b) *Efficient and reasonable use* - A lack of soil water demand information to support the annual volume requested in accordance with the direction provided by Policies 15 – 20 of the WCWARP;
  - (c) *Landscape and amenity* - The irrigation area is close to sensitive amenity areas and will be visible to the public using the lake, a camping ground and the State Highway.
  - (d) *Transpower infrastructure* – No assessment of the impacts of irrigation on Transpower's assets that are located within the proposed irrigation area.
  - (e) *Water metering* – The applicant is not proposing to install a water meter.
- 6.6 Ms Rodrigo recommended conditions to address (c), (d) and (e) above. However overall she was not satisfied that that the actual and potential effects of the proposed activity are acceptable due to concerns regarding the effects on water quality and the efficient use of water.

### Mr Glasson

- 6.7 Mr Christopher Glasson in his report noted that irrigation area is located on both sides of State Highway 83 east of Otematata. It was a contained landscape on a lake terrace with exotic trees, pasture and farm buildings. Mr Glasson considered that the site had high visibility from the road, but low to moderate sensitivity to change and moderate to high absorption capacity due to its modified landscape.

- 6.8 Mr Glasson considered that the absence of a buffer between the site and road would create moderate adverse effects that required mitigation. However his recommended solution was a buffer between the irrigated area and the lake edge (rather than the road) to be retained as tussock grassland, native shrubland and willows. With these measures he considered that any adverse effects on landscape and amenity would be less than minor.

## **7 THE APPLICANT'S CASE**

---

- 7.1 Legal counsel for the applicant, Ewan Chapman, presented opening submissions and called a number witnesses as summarised below.

### **Opening legal submissions**

- 7.2 The applicant is part of the Upper Waitaki Applicant Group (UWAG), as described in our Part A decision. Mr Ewan Chapman presented comprehensive opening legal submissions on behalf of all UWAG applicants. He said that there may be matters of a specific legal nature relating to certain applications and those issues will be raised when the specifics of the applications were discussed in closing.
- 7.3 Mr Chapman told us that UWAG represents some 72% of all applicants for water takes. This equates to 31% of the total water volume applied for (excluding stockwater and non-consumptive diverts) and 29% of the total irrigable area.
- 7.4 Mr Chapman emphasised that despite the collective approach adopted for these hearings, each application needs to be considered in isolation from others (allowing for priorities). However Mr Chapman noted that UWAG is not producing any other evidence to support its own assessments of cumulative effects and adopts the MWRL evidence to the extent that it defines nodal thresholds.
- 7.5 While raising some challenge to the outcomes of the mitigation measures proposed by MWRL resulting from the WQS study, Mr Chapman told us that the UWAG members were not presenting their case to say that they cannot or will not meet an area-based NDA threshold. To the contrary, he said that we would be shown that they have taken the model and applied it to all properties and will, with mitigation, meet the thresholds.
- 7.6 Mr Chapman then addressed us on the issue of allocation of assimilative capacity. He contended the approach taken by MWRL that essentially resulted in some farming units mitigating for the nutrient loss of other farming units, was inappropriate. He submitted a more appropriate method of allocation is on the basis of productive use of land. The productive use of the land he said represents the level of nutrient discharge of each farming unit and that should be used; and that the method of allocation based on dividing allocation on a per hectare basis should not be utilised.
- 7.7 He submitted that by assessing allocation of assimilative capacity on the basis of productive land use to reflect the NDA for each unit, these methods would be more representative and realistic of the nutrient discharge of each farming unit.
- 7.8 In terms of conditions concerning the nodal approach, he told us the essential issue lies with pinpointing who is exceeding their NDA if exceedances are detected at the nodal point. He told us the UWAG applicants' preference is for on-farm management of total nutrient discharge and annual auditing of individual FEMPs. He then referred us to a draft condition from the Rakaia Selwyn groundwater zone hearing, noting it was a very much site-specific condition.
- 7.9 He submitted that on-farm monitoring should be favoured over monitoring at nodal points. He said this did bring in the practicalities of the purpose of employing the FEMP with the result that if a breach of the FEMP occurs, the consent authority would have control to enforce the conditions of the consent against the individual applicant. It also reflects the reality that each farm will be different depending on the type of activity that is undertaken on that farm with their own tailored farming management practices.
- 7.10 Mr Chapman also said that UWAG had not tabled a final set of conditions or final farm management plans. These matters would be worked through and provided to all parties as the hearing progressed. UWAG was of the view that one suite of conditions was inappropriate. There were variables between sub-catchments, take points, and the "type" of consent applied for which would mean that individual conditions would need to be worked through.

## Ms Cathy Begley

- 7.11 Ms Begley said that the Aviemore property was farmed in conjunction with Otematata Station, Awakino Downs and Little Awakino Station. The latter two areas have been used to grow out the young stock and as the hogget wintering blocks. The property farmed by the applicant therefore extends from the shores of Lake Aviemore and Lake Waitaki to the Hawkdon Range to the south.

### Water Source

- 7.12 Ms Begley said that Lake Aviemore was considered to have high aesthetic and recreational values from a district/local perspective due to the fact that it was used extensively for recreational opportunities such as boating, fishing, camping etc. She said that Daly (2004) states that Lake Aviemore was considered to have a moderate to low degree of naturalness, because they were hydro lakes. However, he said that a number of bird and fish species rely upon the lake for habitat such as bullies, eel, trout and salmon.

### Effects on other water users

- 7.13 There were no other surface water abstractors within a 500 meter radius of the applicants proposed points of take on Lake Aviemore.
- 7.14 Ms Begley noted that the closest neighbouring intake (CRC010927) is located approximately 630 metres upstream of the proposed point of take. Furthermore, it is not subject to any minimum lake levels. Given the distance between the two takes and the fact that this application will be required to cease taking if the lake levels drop below a particular point, Ms Begley considered that the effects of this take on CRC010927 would be *de minimis*.
- 7.15 Ms Begley said that the applicant had gained derogation approval from Meridian Energy Ltd and as such the granting of the proposed takes would not impact upon its existing consents to take and use water within the catchment for power generation.

### Effects on instream values

- 7.16 Ms Begley said that Table 3 of the WCWARP set a specific minimum lake level for Lake Aviemore to ensure that the instream values of the lake was protected. The applicant proposed to cease taking water whenever water level within Lake Aviemore reaches 265.5m a.m.s.l as set out within Table 3 of the WCWARP. Given this, the taking of water from Lake Aviemore was unlikely to impact upon the aquatic values of the lake.
- 7.17 Ms Begley also said that while the specific designs of the intake structure was unknown, it was possible that the intake would take water directly from the lake and as such it would be necessary for a fish screen to be designed and installed on them. To this end, the applicant was proposing that should a fish screen be required, it would be designed and installed by a suitably qualified person, who would then certify that the fish screen had been designed and installed to, as far as was practicable, exclude fish from entering the intake and that the intake was in accordance with the report Fish Screening: good practice guidelines for Canterbury, NIWA Client Report: CHC2007.092, October 2007.

### Effects of inefficient water use

- 7.18 Ms Begley said that the application proposed an annual volume of 210,000 m<sup>3</sup>/year which was based upon the applicants MIC shareholding. For spray irrigation 1 share = 600 mm/ha/year or 6,000m<sup>3</sup>/year. Ms Begley said that using the applicant's MIC shareholding to determine the annual volume did not automatically mean that the proposed annual volume was consistent with Policy 16 (c).
- 7.19 Traditionally two methods have been used to determine whether the use of water for irrigation was efficient. Ms Begley said that the first method was ensuring that the peak application rate was no more than half the water holding capacity of the soil. The second method was based on the implementation of an annual volume using one of the two methods set out in Policy 16 (c) of the WCWARP
- 7.20 Ms Begley said that the applicant would be applying no more than 37 mm per 7 days which was no more than half of the average water holding capacity of the soil. On this basis she considered the use of water was efficient.



- 7.21 Ms Begley said that for the take from Lake Aviemore using the methodology set out in Policy 16 (c) (ii) an annual volume of 199,500 m<sup>3</sup>/year would be acceptable. This was different from the annual volume proposed by Ms Rodrigo. Ms Begley understood that the main difference was due to the fact that Ms Rodrigo used an effective rainfall of 210 mm/year rather than 180 mm/year.
- 7.22 She discussed this difference with Ms Rodrigo and understood that they were in agreement that the effective rainfall was 180 mm/year. Using this rainfall along with the soils requiring 750 mm/ha/year an annual volume of 199,500 m<sup>3</sup>/year would be appropriate. This annual volume was less than that proposed. However, Ms Begley had used Irricalc (under Policy 16(c)(i)) to determine an alternative annual volume of 280,975 m<sup>3</sup>/year.
- 7.23 It was Ms Begley's opinion that as the proposed annual volumes were less than the annual volume determined using the methodology set out under Policy 16 (c) (i), the use of water was therefore considered to be efficient.
- 7.24 Policy 21 of the WCWARP requires all water takes to be metered. Ms Begley said that to ensure that this application was consistent with that policy, the applicant proposed to meter their take.

#### Effects of the use of water on water quality

- 7.25 Ms Begley said that the MWRL Water Quality Study stated that the areas to be irrigated were located within the Lake Aviemore Catchment. This study goes on to calculate N and P thresholds for the property.
- 7.26 The calculated nutrient mitigation requirement of the receiving environments determined in the MWRL Study had identified the N and P thresholds for the property. These were shown in the table below.

	Nitrogen Threshold (kg/Farm)	Phosphorous Threshold (kg/Farm)
MWRL Water Quality Study Property Thresholds (Into Lakes Aviemore/Waitaki)	97,622	2,206
OVERSEER® outputs	80,466	788

- 7.27 Ms Begley said that OVERSEER® had been run by a qualified person to model the N and P outputs from the proposed farming system. The results of the model have been incorporated in to the table above. This table showed that the applicant could meet the property thresholds which were the most restrictive.
- 7.28 Ms Begley said that the applicant was committed to implementing the "Mandatory Good Agricultural Practices" set out within the Farm Environmental Management Plan (FEMP). Implementing those practices ensure that the OVERSEER® results were validated. This along with ensuring that the property thresholds of the WQS (set out in the table above) were not exceeded would ensure that the cumulative effects of the use of water for irrigation on water quality were no more than minor.
- 7.29 Whilst the applicant was able to comply with the thresholds outlined within the MWRL Water Quality Study, this study also identified that the applicant had to consider specific on farm effects and the impacts these activities could have on the local receiving environment. This required a specifically developed Farm Environmental Management Plan (FEMP) to identify and implement appropriate mitigation measures set out in the draft.
- 7.30 At a workshop held in Twizel in August 2009, the applicants met with Dr Melissa Robson of GHD Limited. A "desk top" on farm risk assessment was undertaken. This was considered to be the "starting point" of the FEMP.
- 7.31 Ms Begley said that the workshop identified potential on farm risks specific to each farm along with possible mitigation measures. The on farm risks identified during the desktop risk assessment needed to be verified by an appropriately qualified person who had carried out a site visit. It was anticipated that this would occur should the application be granted.
- 7.32 For Aviemore & Otematata Station, the desktop risk assessment identified the following potential risks:

- (a) The large number of surface water bodies that flow through the property;
  - (b) Extensive tracking;
  - (c) Use of full cultivation;
- 7.33 Ms Begley said that the applicant had committed to implementing the FEMP including an on farm risk assessment, appropriate mitigation, monitoring and auditing before the first exercise of this consent. The FEMP had been proposed as condition of consent and the draft FEMP was presented.
- 7.34 Given that the N and P thresholds from the MWRL Study could be met, and the applicants commitment to addressing on farm risks with the implementation of the FEMP, the effects of the use of water on water quality for both the local receiving environment and cumulative effects were considered by Ms Begley to be minor.

#### Effects on landscape values

- 7.35 Ms Begley said that submissions have been received which state that the Mackenzie Basin as a whole was considered to be an "outstanding natural landscape". These values could be impacted upon through the irrigation of land. Ms Begley noted that the area to be irrigated is located adjacent to (on either side of) the Otematata - Kurow Road (SH 83).
- 7.36 Mr Craig the landscape Architect advising the applicant had concluded that the general effects on the Mackenzie landscape of these applications would be significantly less than minor. Ms Begley said that Mr Andrew Craig would provide further evidence as to whether the irrigation of this area would impact upon the landscape values of the area, which we discuss further below. Based on this evidence, Ms Begley considered that the effects of the proposed takes on landscape values were minor.

#### Effects on Tangata Whenua Values

- 7.37 Ms Begley noted that Te Runanga O Ngāi Tahu submitted on all applications in the catchment, seeking that all applications be declined. The primary reasons for this were that the applications were considered to be inconsistent with the policies and objectives of the WCWARP, and also at odds with the cultural objectives of the RMA.
- 7.38 Ms Begley acknowledged that Te Runanga O Ngāi Tahu have a significant relationship with the Waitaki Catchment, and as such, appropriate minimum flow conditions, and management of water quality effects was proposed by the applicant to ensure that the potential effects on the environment, including tangata whenua values were minor.

#### Effects on People, Communities and Amenity Values

- 7.39 Ms Begley said that the applicant had proposed an appropriate minimum flow condition for the water body from which they have applied to take and use water. It was her opinion that an appropriate minimum flow adequately protected people, community and amenity values within the waterbodies specific to each applicant.
- 7.40 The activities all occur within a rural setting, where the dominant land use was pastoral farming. And, given that the proposed activities all occur on private farmland the use of water was in Ms Begley's opinion unlikely to adversely affect amenity values.
- 7.41 The WCWARP sets an annual allocation "cap" for agricultural and horticultural activities within defined areas (Table 5). The applicant had proposed an annual allocation limit for their own resource consents for the use of water, as well as implementing FEMP, which require existing irrigation systems to be audited and improved where possible, and new systems to be designed and installed by accredited personnel, and implementing initiatives to ensure that water was used wisely.
- 7.42 Ms Begley believed that the primary objective of an annual allocation was to ensure that the water was used efficiently and effectively for the land use, soil type and climatic conditions. The applicant had proposed an annual volume that she considered reflected reasonable and actual use and this was within the allocation limit defined by Table 5.

7.43 Therefore, given the applicant's commitment to ensuring efficient use of water on its property, and that the take was within allocation limits set to protect in-stream values and other users, Ms Begley considered that effects on people and communities would be minor.

**Mr Andrew Craig, landscape architect**

7.44 Mr Craig provided a detailed assessment of landscape character on behalf of the applicant. He considered that the wider environment displayed a mix of high natural character and modified pastoral landscape, with infrastructure being a dominant feature. In relation to the site itself, he considered that it is typically pastoral in character with infrastructure again dominant. He noted that it appears quite discrete due to its confinement by the hills and the lake, but that it opened out substantially to the north leading onto Otematata township.

7.45 In relation to potential effects on visibility and views, Mr Craig considered that the main vantage point from which the site is viewed is SH83. Views can also be obtained from on the lake itself and from Te Akatarawa Road running alongside the lake shore opposite the application site. He considered that the proposal would not result in any significant change to the irrigation area, although it will appear greener over the growing season. He did not anticipate that there would be any adverse visual effects arising from irrigation infrastructure due to the low level methods proposed such as k-lines. Overall he considered that there would be no adverse landscape effects arising from the proposed activity.

7.46 In response to Mr Glasson's evidence, Mr Craig agreed with Mr Glasson's observation that the application site had high visibility from the highway. However, on his site visit Mr Craig observed that there was no existing native vegetation alongside SH83 where currently improved pasture extends right to the roadside boundary. Consequently there would be no change in vegetative land cover resulting from irrigation.

7.47 Further, Mr Craig noted that the landscape within the application site and that of the receiving environment was modified to a significant extent. The nearby Otematata settlement, SH83, and power pylons contribute significantly to the modified landscape of the application site setting. Consequently Mr Craig considered that natural character was not high in the immediate environs of the application site, and so there was no need to impose a landscape buffer.

7.48 Mr Craig said that the landscape character and amenity of application site would not change to any great extent as a result of irrigation activity. The site was already modified and clearly appeared as a working farm landscape. To the viewer, particularly those from SH83, the effects of irrigation on the landscape would not be unexpected, or markedly different to what exists. Nor he added, would the proposed irrigation offend the relevant statutory plans, and was a permitted activity within the district. Thus the effects were anticipated to occur, with no requirement for their mitigation.

**Mr Robert Batty, planner**

7.49 Mr Batty addressed us in relation to planning issues. He set out his broad view as being:

- (a) whether or not granting any of the applications before us, including this application, would undermine the operational integrity of the WCWARP, regional plans and district plans;
- (b) whether cumulative effects would arise from a grant;
- (c) whether grants would promote reasonable efficiencies and sustainable management of the natural and physical resources concerned; and
- (d) whether the grant of consent would derogate from any other consent.

7.50 He was critical of the section 42A officers' collective approach and suggested each application needs to be considered on its own merits. A move away from the generic approach of the reporting officers was required, he said, to enable a proper analysis of each application to occur.

7.51 He supported Mr Kyle's planning analysis on behalf of MWRL and he set out for us relevant policies and objectives in the district and regional plans. In conclusion, he was of the view that granting this consent and all other UWAG consents was appropriate.

### **Mr Andrew Macfarlane, farm management consultant**

- 7.52 Mr Macfarlane is a farm management consultant with 29 years experience. He provided us evidence on behalf of all of the UWAG applicants.
- 7.53 He assessed the viability of the farm management plans and practicality and robustness of the mitigation measures and the ability to monitor progress.
- 7.54 He discussed a range of mitigation measures that had been examined and/or adopted by the UWAG farmers to deal with discharges from their properties consequent upon irrigation.
- 7.55 Mr Macfarlane also discussed with us the costing of various typical irrigation developments.
- 7.56 He considered on-farm monitoring, noting that on-farm monitoring had lifted in its intensity and in detail over the last 10 years, being driven by economic returns and a need to prove environmentally sustainable methods were being utilised. Overall, he held a high degree of confidence in progress concerning the ability to monitor and interpret interfaces between environmental science and management.
- 7.57 He raised with us the advantages of reliable availability of water and pointed out for us the benefits of irrigation, noting that while generally irrigation typically only represents a small part of the total farm area, but it does result in high productivity increases with a resultant favourable impact on economic viability of farming operations. He concluded with the correct planning, management and monitoring any negative environmental impact of intensification of a small area would lead to positive environmental outcomes on the balance of the property. It was his view a net positive balance was certainly possible.

## **8 SUBMITTERS**

---

- 8.1 Set out below is the summary of the issues raised by submitters who appeared before us. We emphasise that we have read and considered all submissions made, both in support and in opposition to the application, as well as reviewing and carefully considering evidence advanced before us.

### **Mr Scarf (Fish & Game)**

- 8.2 Mr Scarf said that this was one of the applications involving the taking of water directly from lake bodies. From a hydrological point of view, Mr Scarf said that the applications seeking to take from the hydro canals and lakes pose little or no risk to instream values, provided that the minimum lake levels and the allocations, specified in Rule 6 Table 5 are complied with.

### **Meridian Energy Limited**

#### Mr Richard Turner

- 8.3 Mr Richard Turner (Planning Manager – Natural Resources, Meridian Energy Ltd) noted that there were discrepancies between the applicant's proposed consent conditions and those common consent conditions agreed with MEL prior to derogation approval being acquired. He noted that failure to make the application consistent with the common consent conditions would result in derogation approval be revoked. He expected the applicant to clarify the conditions they were seeking before the end of the hearing.

#### Mr Rob Greenaway

- 8.4 We acknowledge the relevance of, and have taken into account, the evidence of Mr Rob Greenaway called by Meridian Energy Limited to point out to us the recreational values and opportunities such lakeside environments provide.

### **Mackenzie Guardians – Dr Susan Walker**

- 8.1 Dr Susan Walker (Plant Ecologist, Landcare Research) was engaged by the Mackenzie Guardians to provide evidence at the hearing detailing the effects on terrestrial ecology from the proposed irrigation of an additional 25,000 ha. The majority of Dr Walker's evidence related to the proposed irrigation in all of the Upper Waitaki catchment. A summary of this evidence has been included in Part A of this decision.

- 8.2 In relation to individual applications, Dr Walker's Attachment 15 contained her more particularised reviews in respect of each site. Dr Walker assessed this part of Aviemore Station as being approximately 89% converted. She noted that it was mainly already developed, but adjacent to a lake that is a SSWi and WERI. She concluded that overall the potential effects potential effects of irrigation on terrestrial biodiversity were moderate.

#### **Cultural values – Mr Paul Horgan – Environmental Advisor**

- 8.3 Mr Horgan told us that Ngāi Tahu had taken a balanced approach when assessing the applications and resisted the temptation to simply oppose all applications in their entirety. More particularly, Ngāi Tahu had generally placed its emphasis upon the new (rather than replacement) consent applications and those that will result in large scale land use intensification, rather than the taking of water so as to provide security of supply for existing farming operations.
- 8.4 Mr Horgan told us that Ngāi Tahu had adopted two focal points in the Upper Waitaki Basin against which they assessed the applications, being the Upper Haldon Arm / Lower Tekapo River and the Ahuriri Delta. Mr Horgan told us that in addition to being focal points, that Ngāi Tahu also propose to undertake mahinga kai restoration in those locations also.
- 8.5 Notwithstanding the interest in the two focal points of the Ahuriri Delta and the Haldon Arm, Mr Horgan for Ngāi Tahu reiterated concern about the possible effects that increased nitrates and phosphorous concentrations in Lake Benmore might have on the Lower Waitaki catchment. In this respect the Ngāi Tahu philosophy of "Ki Uta Ki Tai" or "mountains to the sea" is relevant and recognises that all parts of the catchment are interconnected and an impact on one part will affect all other parts.
- 8.6 A litmus test for Ngāi Tahu was that kai gathered in the waters of the Waitaki system should be able to be eaten safely. They stated that the individual and cumulative effects of the proposed activities required that a precautionary approach must be adopted in our decision making.
- 8.7 The visual evidence provided by Ngāi Tahu at the hearing indicates that no "recorded" archaeological sites are located on that area of Aviemore Station close to Mahi Tikumu/Lake Aviemore where the proposed activities are to occur. However the "visual evidence" indicates that a Nohoaka (temporary seasonal campsite) is located in close proximity to proposed irrigation area and within 200 metres of the proposed intake site.

#### **9 UPDATES TO THE SECTION 42A REPORTS**

---

- 9.1 In her addendum report, Ms Rodrigo identified several matters that had been identified during the hearing, or as a result of changes proposed by the applicant and provided the following comments on what she considered to be the outstanding matters.

##### **Surface Water Quality**

- 9.2 Ms Rodrigo noted that the draft FEMP and water quality assessment provided by Ms Begley and MWRL, had been audited by Environment Canterbury's technical experts. For this application, they considered that there was a high level of certainty that the actual and potential adverse effects could be less than minor, and given the scale of the development and the sensitivity of the receiving environment, suggest that on the basis of cumulative water quality effects this application could be granted, subject to appropriate conditions of consent.

##### **Efficient and Reasonable Use**

- 9.3 Mr Rodrigo referred to the evidence of Ms Begley regarding annual volumes and the discrepancy between here calculation under WQN9v2 (189,000 m<sup>3</sup>/yr) and that of Ms Begley (199,500 m<sup>3</sup>/yr). Ms Rodrigo agreed that the reason for the difference was due to different effective irrigation rainfall values being used. Ms Rodrigo confirmed through ECan's GIS database that the correct rainfall value should be 180 mm/yr and therefore agreed with Ms Begley that the calculated volume using WQN9v2 was 199,500 m<sup>3</sup>/yr.
- 9.4 Ms Rodrigo said that this annual volume was still less than the volume applied for the applicant. However, there are some uncertainties associated with this assessment due to the lack of reliable information relating to soil PAW values. Mid-range soil values of 90 mm due were used in the assessment. It is understood that PAW values for the Waenga Silt Loam soils that cover approximately 90% of the irrigation area range from 30 – 150 mm. In addition, Mr Jeremy Cuff

(Land Resources Scientist, ECan) suggested that 90 mm may be the upper limit for this soil type based on rough calculations using the description of these soils in the Soil Bureau Bulletin 27.

- 9.5 Given that the differences between the annual volumes calculated using WQN9v2 (199,500 m<sup>3</sup>/yr) and the proposed annual volume (210,000m<sup>3</sup>/yr) only equates to 10,500 m<sup>3</sup>/yr and given that the soils at the site may have lower PAW values than used in the assessment, Ms Rodrigo considered that the annual volume proposed by the applicant was reasonable.

### **Landscape and amenity**

- 9.6 A landscape assessment by Mr Andrew Craig was presented in evidence at the hearing. The assessment was audited by Mr Chris Glasson.
- 9.1 In his addendum report Mr Glasson noted that a key component of the proposal was the use of k-lines and that there was no mitigation measures proposed. He considered that the effects of this proposal were acceptable, provided that a 100m buffer from the lake was provided and 50m to streams.

### **Fish Screening**

- 9.2 Ms Begley noted that Ms Begley proposed an alternative condition for the design and installation of a fish screen. However Ms Rodrigo considered that the proposed condition provides less certainty that the fish screen will be designed in accordance with the NIWA Fish Screen Guidelines before the consent is granted.
- 9.3 Ms Rodrigo considered that an alternative approach to the condition proposed by Ms Begley would be to include a condition that incorporated both the recommended conditions relating to intakes directly from a waterbody or via an infiltration gallery. This will provide the flexibility the applicant is seeking, while still ensuring that the screen is designed in accordance with the key criteria, recommended by the guidelines.

### **Other issues**

- 9.4 In relation to Transpower infrastructure, Ms Rodrigo noted that the applicant has agreed to the recommended condition requiring separation distances from any such infrastructure and that this issue was therefore resolved.
- 9.5 Ms Rodrigo made a similar point on water metering, noted that the applicant's proposal to install a water meter for the take from Lake Aviemore has resolved this issue.
- 9.6 On this issue of minimum lake levels, Ms Rodrigo noted that MEL has provided derogation approval to Aviemore Ltd provided that they adopt a higher minimum lake level (267.7m asl) than what the plan requires (265.5m asl). The applicant had agreed to this higher level and given that this is a more conservative minimum lake level than what is recommended by the WCWARP, Ms Rodrigo did not have any concerns with this amendment to the application.

## **10 APPLICANT'S RIGHT OF REPLY**

---

- 10.1 As for his opening, Mr Chapman's right of reply was presented on behalf of all UWAG members. He also provided some specific comment on individual proposals, but not in relation to this particular application.
- 10.4 Turning to more general comments, Mr Chapman challenged Dr Freeman's Table 5, contained within his first addendum report dated 12 January 2010. Mr Chapman considered the correct approach for the ranking of the applications was to determine where they sit in relation to the existing environment.
- 10.5 Mr Chapman said that other scenarios would need to apply for those consents whose catchment or sub-catchment was below Benmore or a combination of Benmore/Aviemore and Waitaki. He said that those consents should revert back to the property specific monitoring arrangements with no trigger response or increased monitoring which related to the condition or trends relating to Benmore.
- 10.6 He noted there had been much emphasis on nutrient management but he contended we should also be considering sustainability of the erosion-prone fragile soils within the catchment. He also submitted we should take note that district plans encourage farming, including irrigation, within

these environments; and the tenure review undertaken by the Crown encourages intensification of land use retained in freeholding ownership in order to release more vulnerable pastures to be set aside under Crown ownership.

- 10.7 He also contended we should consider economic implications on the survival of these farms given their investment in infrastructure as a factor. He also noted we should take into account managing the land in light of weed and pest problems and how irrigation assists in that regard.
- 10.8 We did subsequently receive from Mr Chapman generic conditions and revised FEMPs applicable to all the UWAG applicants.

## **11 STATUTORY CONTEXT**

---

- 11.1 The relevant statutory context for a **discretionary** activity is set out in detail in our Part A decision. In accordance with those requirements, we have structured this evaluation section of our report as follows:
- (a) Evaluation of effects
  - (b) Evaluation of relevant planning instruments
  - (c) Evaluation of other relevant s104 matters
  - (d) Part 2 RMA
  - (e) Overall evaluation

## **12 EVALUATION OF EFFECTS**

---

- 12.1 Drawing on our review of the application documents, the submissions, the Officers' Reports, the evidence presented at the hearing and our site inspection, we have concluded that the effects we should have regard to are:
- (a) Water quality
  - (b) Inefficient use
  - (c) Landscape and amenity
  - (d) Effects on Lake Aviemore
  - (e) Tangata whenua values
  - (f) Positive effects

### **Water quality**

- 12.2 The proposed activity can have an impact on water quality in the immediate vicinity of the site or in combination with other activities in the catchment result in cumulative adverse effects.

### Local effects

- 12.3 The applicant has stated that the impacts on water quality resulting from irrigation will be mitigated to some extent due to the following reasons:
- (a) The irrigation method proposed uses water efficiently and the amount applied per return period should avoid leaching to groundwater, or overland runoff to surface water;
  - (b) The property will be used for crop production and pasture, which will be grazed by sheep and cattle.
- 12.4 Ms Begley advised, that the applicant proposed to develop a farm management plan, which would include measures to mitigate potential impacts on water quality and she presented a draft of that plan.

- 12.5 Ms Begley said that the workshop identified potential on farm risks specific to each farm along with possible mitigation measures. The on farm risks identified during the desktop risk assessment needed to be verified by an appropriately qualified person who had carried out a site visit. It was anticipated that this would occur should the application be granted.
- 12.6 The desktop risk assessment identified the following potential risks:
- (a) The large number of surface water bodies that flow through the property;
  - (b) Extensive tracking;
- 12.7 That draft was further developed during the hearing and the final draft was submitted for auditing to the Canterbury Regional Council. The applicant has proposed that the plan forms part of the conditions of consent and is committed to implementing mitigation measures identified in the risk assessment.
- 12.8 We are satisfied that for this property the local effects on water quality will be minor.

#### Cumulative effects

- 12.9 A number of submissions on this effect were received by ECan, including a submission from Meridian Energy Ltd.
- 12.10 An assessment of cumulative effects on water quality was requested to address the above concerns, in relation to Policy 13 of the WCWARP. The applicant has contributed to the study by Mackenzie Water Research Ltd (MWRL) on cumulative effects within the catchment.
- 12.11 The report by MWRL has been audited by the Canterbury Regional Council and in Part A of this decision we rejected the MWRL proposition that all consents sought in this hearing could be granted (with conditions) and without causing cumulative effects. It is incumbent upon us, therefore, to consider (as far as is possible) whether granting this application, in combination with other water permits we grant, will lead to cumulative water quality effects. In this case it means considering the potential effects of granting this application (in combination with others we grant) on:
- (a) the trophic state of Lakes Aviemore and Waitaki
  - (b) groundwater chemistry and in particular the MWRL-proposed threshold of 1 mg/L NO<sub>3</sub>-N.
- 12.12 The applicants proposed various mitigation measures to lessen the risk of their activities contributing to cumulative water quality effects. We need to consider whether the proposed mitigations, and adaptive management scheme are sufficient to avoid a significant water quality problem occurring, and/or whether refinements to the measures proposed are required.
- 12.13 We have identified that the environments we need to consider with respect to water quality effects are Lakes Aviemore and Waitaki . The draft FEMP and water quality assessment provided by Ms Begley and MWRL, had been audited by Environment Canterbury's technical experts. For both applications they consider that there was a high level of certainty that the actual and potential adverse effects could be less than minor, and given the scale of the development and the sensitivity of the receiving environment, suggest that on the basis of cumulative water quality effects this application could be granted, subject to appropriate conditions of consent.
- 12.14 Given the information on the impacts of irrigation on water quality and the measures proposed to address these impacts, we confirm that the impacts on water quality will be acceptable.

#### **Inefficient use**

- 12.15 As discussed above, the applicant proposes to take up to 210,000 cubic metres of water per year for irrigation of 35 hectares. The irrigation volume was determined by the applicant using the volume adopted by Mackenzie Irrigation Company of 600 millimetres per hectare per year.
- 12.16 We note that the volume is more than calculated using the WQN9v2 approach (199,500 m<sup>3</sup>/yr). Ms Rodrigo considers that this volume is acceptable based on the relatively small difference between the two volumes (10,500 m<sup>3</sup>/yr) and the fact that the soils may have lower PAW values than those used in the assessment.



- 12.17 We do not accept that the 600 mm per hectare used by MIC as a basis of shareholding across the whole of the basin is a measure of efficient use of water, but rather a maximum that can be granted to a property. Our approach in other decisions has been to only grant the volume of water determined by WQN9v2, as this is consistent with the requirements of Policy 16 of the WCWARP for determining a reasonable annual volume.
- 12.18 We can see no good reason for departing from this approach in this case and consider that to adopt the annual volume proposed by the applicant may allocate more water than what is required and result in an inefficient use of water. We therefore prefer the annual volume of 199,500 m<sup>3</sup>/yr calculated under Schedule WQN9v2 approach as the appropriate volume of water for spray irrigation of the proposed irrigation area.

### **Landscape and amenity values**

- 12.1 On the issue of landscape, we accept the common evidence of Messrs Glasson and Craig that the site has high visibility from SH83, but relatively low sensitivity to change and moderate to high capacity to absorb potential adverse effects. We agree that the landscape of the application site and that of the receiving environment is modified to a significant extent and clearly appears as a working farm landscape with infrastructure being a dominant feature. On this basis, we accept that the presence of irrigation in this environment would not be an inappropriate development.
- 12.1 The only issue of debate was whether buffers should be provided from the lake and/or SH83. Mr Glasson was of the view that a 100m buffer was required from the lake, with 50m from streams. In his original evidence he recommended a buffer from SH83, however this did not come through in his addendum report. Mr Craig considered that no buffers were necessary.
- 12.2 In relation to a setback from SH83, we agree with the evidence of Mr Craig that buffering on the roadside is not required. We support his view primarily because the environment is already highly modified by pastoral activities with improved pasture extending right down to the roadside boundary. We do not think that allowing irrigation is out of step against the background of the existing development. In a way, irrigation on this particular site could be seen as part of a progression of the development. In addition, we consider that the use of k-line irrigators on this property will be less visually obstructive than other proposals before us involving larger pivot irrigators.
- 12.3 In respect of the setback from the lake, we consider there is some merit in this suggestion to protect the character and amenity of the lake. However we consider that 100m is excessive and given the narrow shape of the irrigation area, a buffer of this size would extend across to the southern side of SH83 in some parts of the property.
- 12.4 To resolve this issue we have checked the legal boundary of the property to the north of SH83 where irrigation is proposed (based on the map attached to the final condition set). We received no evidence that irrigation would extend beyond the boundary of this property towards the lake, so can only presume that irrigation will be contained within the legal boundaries. Provided that this occurs, we are satisfied that no additional buffer is required, as there is already an adequate separation distance between the property boundary and the lake edge. We have incorporated this intention into the conditions of consent along with a plan to illustrate the location of the property boundary we are referring to. We also note that the FEMP provides for the planting of a buffer zone along the boundaries of Lake Aviemore, which is a measure we support.
- 12.5 Overall, provided the above measures are adopted, we are satisfied that the effects of this proposal on the landscape values are acceptable.

### **Effects on Lake Aviemore**

- 12.6 Under this heading we have considered the potential effects of the take on the values of Lake Aviemore, including its ecological values and use for recreation. We have also considered the potential impact on other users that have existing consents to take water from the lake.
- 12.7 The level of the lake is controlled by MEL through the operation of the hydro scheme. MEL has provided derogation approval to the application on the basis that a minimum lake level of 267.7m asl is maintained, being the lowest operating level of the lake.
- 12.8 The applicant has agreed to a condition of consent whereby the take of water must cease if the lake drops below this level. This level is higher than the minimum lake level of 265.5m required under the WCWARP, which has been set taking into account the natural values and ecosystems of

the lake. In combination with the proposed fish screen on the intake, we consider that retaining this lake level will ensure that the ecosystems within the lake and protected and the recreational opportunities the lake provides are not compromised.

- 12.9 In relation to fish screening, we have preferred the condition recommended by Ms Vesey in her addendum report (WP10 – specific to takes from lakes) to that proposed by the applicant. The condition was the outcome of a fish screen working party and we consider it is the most appropriate condition to ensure that the intakes comply with the NIWA fish screening guidelines.
- 12.10 In relation to potential effects on other users, given the proposed rate of abstraction compared to the volume of water in the lake and the rate of inflow, we consider that the proposal will have a negligible impact on lake levels. On this basis we consider that no other users with consent to abstract water from the lake will be adversely affected by the grant of this consent.

### **Tangata Whenua values**

- 12.11 In their evidence Ngāi Tahu did not identify any specific cultural or spiritual values that may be adversely affected by this proposed activity.
- 12.12 The proposed activity for new irrigation is located in a part of the catchment that has a relatively small level of existing irrigation. It is downstream of the area that has been identified by Ngāi Tahu for mahinga kai restoration, however that does not minimise the duty to avoid adverse effects on the localised cultural values of tangata whenua. The “Ki uta ki tai” (mountains to the sea) concept recognises the interconnected nature of the waters of the Waitaki system and the relationship that Ngāi Tahu hold with all parts of the waterways.
- 12.13 Additionally, Mahi Tikumu/Lake Aviemore is a Statutory Acknowledgement area, which provides for the recognition of Ngāi Tahu mana to be reflected in the management of resources that may impact on the lake. The proposed irrigation area is not within a silent file area nor are there any recorded archaeological sites in the vicinity of the property.
- 12.14 However the “visual evidence” presented by Ngāi Tahu at the hearing indicates the location of a Nohoanga (temporary campsite) in close proximity to the proposed irrigation area and intake site. This fact has not been identified by the applicant and therefore it is not known what measures are proposed to mitigate the potential adverse effects arising from the proposed activity. We think that this matter is particularly relevant to the proposed water intake activity. The yet to be lodged consent application for that part (intake) of the overall proposal should include measures to show that sufficient distance is established between the Aviemore Nohoanga and the proposed intake and associated pump to avoid possible adverse effects on the nohoanga campsite.
- 12.15 We note that the Ngāi Tahu Settlement Act 98, provides the following legal title for the Lake Aviemore Nohoanga; “1 hectare, approximately, being Part Run 243E (S.). 1344). Part *Gazette* Notice 348771. Subject to survey, as shown on Allocation Plan MN 434 (S.O. 24712)”.

### **Positive Effects**

- 12.16 It is noted that the use of water for irrigation could improve the productivity of the land, resulting in economic benefits to the wider community.

### **Key conclusions on effects**

- 12.17 In relation to the actual and potential effects of the proposal, our key conclusions are as follows.
- 12.18 In terms of water quality, we accept the material put forward on behalf of the applicant and the assessment of that material by Dr Freeman and other experts that the effects of the proposal will be acceptable.
- 12.19 Subject to a reduced volume in accordance with Schedule WQN9v2, we accept that the proposal will be an efficient use of water that is consistent with the requirements of the WCWARP, as discussed further below.
- 12.20 In terms of effects on landscape values, we do not think that the irrigating of the subject site will have any adverse effects, provided the lakeside irrigation are is contained within the legal property boundaries.. We generally prefer the evidence of Mr Craig on this point as opposed to the buffers proposed by Mr Glasson.

- 12.21 We consider that the mitigated measures we impose will adequately address any potential effects on other water users and ensure that the ecological and recreational values of the lake are maintained.
- 12.22 The effects on the cultural values are considered to be minor.
- 12.23 Finally, in terms of our key conclusions on effects we do accept that there will be economic benefits for the applicant and the wider community if this consent is granted.

### **13 EVALUATION OF RELEVANT PLANNING INSTRUMENTS**

---

- 13.1 Under s 104(1)(b) of the Act, we are required to have regard to the relevant provisions of a range of different planning instruments. Our Part A decision provides a broad assessment of those planning instruments and sets out the approach we have applied to identification and consideration of the relevant provisions. The following part of our decision should be read in combination with that Part A discussion.
- 13.2 In relation to the current applications, we consider that the most relevant and helpful provisions are found in the regional plans, including in particular the WCWARP and the NRRP. In addition, the Proposed and Operative CRPS and the relevant District Plans are of assistance in relation to landscape issues that arise.
- 13.3 The following sections of this decision provide our evaluation of the key objectives and policies from these planning instruments. We have organised our discussion in accordance with the key issues arising for this application.

#### **Water quality**

- 13.4 In relation to water quality, the key documents we have considered are the WCWARP (incorporating the objectives of the PNRRP) and the operative NRRP provisions.
- 13.5 In relation to the WCWARP, we consider that Objective 1 is the critical objective. In particular, Objective 1(b) seeks to safeguard life-supporting capacity of rivers and lakes and Objective 1(c) requires us to manage waterbodies in a way that maintains natural landscape and amenity characteristics and qualities that people appreciate and enjoy.
- 13.6 We have determined that granting these consents with conditions (incorporating mitigations set out in the FEMP) will help to minimise nutrient loss from the irrigated area. The load arising from this activity will not adversely affect the trophic status of Lake Aviemore and there are no local streams or rivers of concern. Overall, we conclude that a grant of consent, with conditions, would be consistent with Objective 1 of the WCWARP.
- 13.7 We note that Objectives 2, 3, 4, and 5 are “in the round” deal with and provide for the allocation of water. The critical qualification is that water can be allocated provided that to do so is consistent with Objective 1. Given the findings we have made about Objective 1 we conclude that allocating water in terms of the balance objectives would be consistent with the overall scheme of the WCWARP. We reach this view taking into account the national and local costs and benefits (environmental, social, cultural and economic) of the proposal, as required by Objective 3.
- 13.8 Policy 13 links the WCWARP to the PNRRP (as it existed at the time) by requiring us to have regard to how the exercise of the consent could result in water quality objectives of the PNRRP not being achieved. As we explained in our Part A decision, we have considered the objectives of the PNRRP and the now operative NRRP in relation to the current proposal. However we have generally given greater weight to the NRRP provisions on the basis that they represent the current approach for achieving the common goal of protecting water quality.
- 13.9 Under the NRRP, Lake Aviemore is classified as an “Artificial On-River Lake”. Objective WQL1.2 of the NRRP seeks to ensure that the water quality of the lake is managed to at least achieve the outcomes specified in Table 6, including a maximum Trophic Level Index (“TLI”) of 3 (i.e. oligotrophic-mesotrophic boundary). For the reasons discussed above, we consider that granting consent to the proposal would be consistent with this objective and would not (in combination with others we grant) cause the TLI maximum to be breached.

- 13.10 Overall then having regard to the scheme of the WCWARP and the NRRP we reach a conclusion that granting consent with appropriate conditions to the proposal would be consistent with the key objectives and policies of both of these plans relating to water quality.

### **Efficient use**

- 13.11 As we read the provisions of the WCWARP, there is a strong and clear focus on the efficient use of water. Policies 15 – 20 provide for an efficient use of water so that net benefits are derived from its use and are maximised and waste minimised.
- 13.12 In particular, Policy 16 requires us to consider whether the exercise of these consents would meet a reasonable use test in relation to both the instantaneous rate of abstraction and the annual volume for take, use, dam or divert. As discussed in our evaluation of effects, subject to a reduced annual volume in accordance with Schedule WQN9v2, we are satisfied that the rates and annual volumes reflect an efficient and effective use of water and that the reasonable use test can be met.

### **Landscape**

- 13.13 We discussed the relevant objectives and policies for landscape in our Part A Decision. In summary these are primarily found in the Proposed and Operative CRPS and the NRRP. In broad terms these provisions seek the protection of outstanding natural landscapes from inappropriate use and development.
- 13.14 In considering these provisions we are informed by the provisions of the Waitaki District Plan which identifies the applicant's property as a classified Rural Scenic Zone, but not within an Outstanding Natural Landscape. Objective 16.8.2 seeks to manage subdivision, use and development so that the overall landscape qualities of the Rural Scenic Zone are maintained. However as pointed out by Mr Craig, there are no controls in the Plan affecting the location, form and extent of irrigation activity.
- 13.15 In summary, there is nothing in the planning instruments that alters our conclusion that the landscape effects of this proposal are acceptable for the environment in which they are located. For the reasons already advanced we think that, with the conditions imposed, the proposal is consistent with the relevant objectives and policies relating to landscape.

### **Environmental flow and level regimes**

- 13.16 Policies 3 and 4 of the WCWARP refer to the setting of environmental flow and level regimes to achieve the objectives of the WCWARP. In addition, Policy 12 seeks to establish an allocation for each relevant activity within the catchment and requires consideration of the effects on other users. This is reflected in the rules of the PNRRP which specifies minimum flows and levels for water bodies and allocation limits for specific activities.
- 13.17 In addition, Policy 42 specifically relates to setting minimum lake levels that recognise the natural and physical values of the lake and enable access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.
- 13.18 The applicant is proposing to adopt the minimum lake level in the plan, and is within the allocation for agricultural and horticultural activities identified in Rule 6, Table 5. We are therefore satisfied that the proposal is considered to be consistent with these policies.

### **Tangata whenua**

- 13.19 Objective 1(a) of the WCWARP relates to the integrity of mauri and is closely linked to Objective 1(b). If we are satisfied that the health of a particular water body is being safeguarded then the mauri is being safeguarded also.
- 13.20 Objective WQN1 from Chapter 5 of the NRRP seeks to enable present and future generations to access the regions surface water and groundwater resources to gain cultural, social, recreational, economic and other benefits, while (c) safeguarding their value for providing mahinga kai for Ngāi Tahu and (d) protecting wāhi tapu and other wāhi taonga of value to Ngāi Tahu. This objective aligns with the Ngāi Tahu philosophy "Ki Uta, Ki Tai", or recognising the interconnected nature of the Waitaki catchment and safeguarding the associated cultural values. Our finding is

that there is unlikely to be deterioration in water quality of Lake Aviemore, which ensures this application is consistent with this Objective.

### Key conclusions on planning instruments

- 13.21 For all of the above reasons we consider that, with the imposition of appropriate conditions granting consent would be consistent with the objectives and policies of the relevant plans. We have reached this conclusion taking into account the relevant planning provisions in respect of water quality, efficiency, environmental flows, landscape and tangata whenua values.

## 14 EVALUATION OF OTHER RELEVANT S104 MATTERS

---

- 14.1 Under s104(1)(c), we are required to have regard to any other matter that we consider to be relevant and reasonably necessary to determine the application. After hearing all the relevant evidence, we consider that no such matters exist in relation to this application.

## 15 PART 2 RMA

---

- 15.1 Section 104(1) states that the matters which we have discussed above are subject to Part 2, which covers section 5 through section 8 inclusive. These sections are set out in full in our Part A decision and are discussed below in the context of the current application.

### Section 6 – Matters of National Importance

- 15.2 Section 6 identifies matters of national importance that we must “recognise and provide for” when making our decision, including in particular preserving the natural character of lakes and rivers (s6(a)), protecting outstanding natural features and landscapes (s6(b)) and the relationship of Māori with the environment (s6(e)).
- 15.3 In respect of s6(a) we recognise that preservation of the natural character of lakes and rivers is the imperative. We think that because of our finding in terms of the water quality issues, the grant of consent recognises and provides for the preservation of the natural character of lakes and rivers.
- 15.4 In terms of s6(b), we have evaluated the natural features and landscape, primarily by reference to the relevant planning instruments. We reach the view that the grant of consent in this case is not inappropriate because it will not, in our view, diminish the natural features and landscapes on the existing environment.
- 15.5 In terms of section 6(c), it is our view, taking into account the evidence received, that there are not areas of significant indigenous vegetation and significant habitats of indigenous fauna that are at risk thus requiring protection as a consequence of the grant of consent.
- 15.6 In relation to section 6(e) we are cognisant of the relationship that Ngāi Tahu hold with the natural resources of this area, and while no specific values were specified by Ngāi Tahu in relation to this application, we believe that the mitigation measures and conditions provide for the cultural relationship to this catchment that is of importance to Ngāi Tahu.
- 15.7 For the above reasons, we consider that granting consent to the proposal would recognise and provide for s6 matters, as we are required to do under the RMA.

### Section 7 – Other Matters

- 15.8 Section 7 lists “*other*” matters that we shall “*have particular regard to*”. We make the following observations in relation to each of those matters as they are relevant to this application, referring to the sub paragraph numbers of s7:
- 15.9 Sub-section (a) refers to kaitiakitangā. We consider that the proposed activity with mitigation measures and conditions sits within the acceptable environmental parameters outlined by Ngāi Tahu such that that it will not cause distress to the function of kaitiakitangā.
- 15.10 Sub-section (b) relates to the efficient use and development of natural and physical resources. Relevantly in this case is water. We have determined that the volumes of water we are prepared to grant and the use of spray irrigation will result in the efficient use and development of the water resource.

- 15.11 Sub-section (c) refers to the maintenance and enhancement of amenity values. Having regard to the amenity values of the area proposed for irrigation, we do not think that allowing irrigation to occur will impact on sub-section (c) issues.
- 15.12 In terms of sub-sections (d) and (f), we have had particular regard to the intrinsic values of ecosystems and the maintenance and enhancement of the quality of the environment. We consider that through the grant of consent with the conditions imposed such values will be safeguarded.
- 15.13 Having particular regard to the above matters in the context of section 7, we conclude that the grant of consent could be supported

#### **Section 8 – Treaty of Waitangi**

- 15.14 Finally, section 8 requires that we shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).
- 15.15 The cultural values of tangata whenua are appropriately recognised in the relevant planning documents applicable to the Mackenzie Basin sufficient to alert applicants to the need to address such values. We are satisfied that the notification of the appropriate Runangā and tribal authority has been followed and that the applicant was a contributor to the general assessment of the impact of irrigation activities on cultural values.
- 15.16 We are satisfied that the consultation procedures provided Ngāi Tahu with the opportunity to understand and respond to the proposed activity, albeit in conjunction with a large number of applications in the Mackenzie Basin.

#### **Section 5 – Purpose of the RMA**

- 15.17 Turning now to the overall purpose of the RMA, that is, “*to promote the sustainable management of natural and physical resources*”, we make the following further comments:
- (a) We consider the development and use of land is consistent with the purpose of sustainable management;
  - (b) Irrigation will make a contribution to the overall regional (Waitaki) wellbeing; and
  - (c) The natural and physical resources of the Mackenzie site (water and land resources) will all be sustained.
- 15.18 This leaves section 5(2)(c) RMA and the obligation to avoid, remedy or mitigate any adverse effects of activities on the environment. We are satisfied that the applicant has proposed appropriate mitigation to avoid and remedy the adverse effects arising from this proposal.

### **16 OVERALL EVALUATION**

---

- 16.1 Under s104B of the RMA, we have a discretion as to whether or not to grant consent. This requires an overall judgment to achieve the purpose of the Act and is arrived at by:
- (a) Taking into account all the relevant matters identified under s 104;
  - (b) Avoiding consideration of any irrelevant matters;
  - (c) Giving different weight to the matters identified under s 104 — depending on our opinion as to how they are affected by the application of s 5(2)(a), (b), and (c) and ss 6-8 — to the particular facts of the case; and then in light of the above; and
  - (d) Allowing for comparison of conflicting considerations, the scale or degree of conflict, and their relative significance or proportion in the final outcome.
- 16.2 The key issues for us in relation to this application were to do with water quality issues, efficiency, landscape values, and, overall, how well the grant of consent sat alongside the key policies and objectives within the WCWARP. There were not, in our view, any significant competing or conflicting considerations and no significant opposition to the proposal. The only real debate was around the nature of conditions that were appropriate to mitigate any potential

adverse effects of the proposal. We are satisfied that any such effects will be adequately addressed by the conditions we impose.

- 16.3 Having reviewed the application documents, all the submissions, taking into account the evidence to the hearing and taking into account all relevant provisions of the RMA and other relevant statutory instruments we have concluded that the outcome which best achieves the purpose of the Act is to grant consent, subject to conditions.

## 17 CONDITIONS

---

- 17.1 Given our decision to grant consent, we have given careful consideration to the conditions that are necessary to avoid, remedy and mitigate the potential adverse effects of the proposal. The starting point we have used for this exercise is the final condition set provided by the applicant. This was the result of a collaborative process that occurred after the conclusion of the hearing, as described in our Part A decision.
- 17.2 The condition set provided to us includes comments on discrete issues from Council officers and several submitters. Where any such comments have been made, we have taken this into account when arriving at the final condition set. We are proceeding on the basis that the condition set provided to us incorporates all relevant conditions required by Meridian Energy as part of its derogation approval, which has been confirmed by legal counsel for Meridian.
- 17.3 We have made some modifications and additions to the condition set provided to us. However all modifications respect the conditions attaching to derogation approvals provided by Meridian. Several of these changes relate to matters discussed in the preceding sections of this decision to ensure that any concerns we have about potential effects are adequately addressed.
- 17.4 We note that the agreed conditions between the applicant, submitters and the Council do not include any water quality monitoring conditions. We are satisfied that this is reasonable because:
- (a) There are no streams passing through the proposed irrigation area, and,
  - (b) Lake Aviemore is well-flushed with a mean retention time of ~ 16-20 days. This together with the minor area of irrigation proposed means there is no risk of nutrient inputs from irrigation causing the TLI to exceed the threshold in the NRRP (3.0). No useful resource management purpose would be served by requiring water quality monitoring in this instance.

## 18 DECISION

---

- 18.1 Pursuant to the powers delegated to us by the Canterbury Regional Council:
- 18.2 For all of the above reasons and pursuant to sections 104 and 104B of the Resource Management Act 1991, we **GRANT** application **CRC083692** by Aviemore Limited for the following activity:
- To take and use water from Lake Aviemore at a rate of 19L/s and 210,000 m<sup>3</sup>/yr for the spray irrigation of 35ha of pasture on Aviemore Station
- 18.3 Pursuant to section 108 RMA, the grant of consent is subject to the conditions specified at **Appendix A**, which conditions form part of this decision and consent
- 18.4 The duration of this consent shall be until the 30<sup>th</sup> April 2025.

DECISION DATED AT CHRISTCHURCH THIS 23rd day OF MARCH 2012

Signed by:

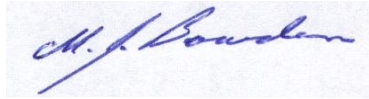
Paul Rogers



Dr James Cooke



Michael Bowden



Edward Ellison





### Take of water

1. Water shall only be taken from Lake Aviemore located at or about map references NZMS 260 H40:893-186 and H40:899-180.
2. Water for irrigation shall only be taken between 1 September and the following 30 April at a rate and volume not exceeding 19 litres per second, 1,642 cubic metres per day (being from 12.00am to 12.00am on the following day) and 199,500 cubic metres per year (measured between 1 September and the following 30 April).
3. Whenever the level in Lake Aviemore falls below 267.7 metres above mean sea level as assessed by Meridian Energy Limited and published on [www.meridianenergy.co.nz](http://www.meridianenergy.co.nz), the consent holder shall cease the abstraction of water from Lake Aviemore for the irrigation purposes.

### Use of water

4. Subject to Condition 5, water shall only be used for the spray irrigation of 35 hectares of pasture per irrigation season for grazing sheep and beef cattle within the area of land shown on attached **Plan CRC083692-A**, which forms part of this consent.
5. In that part of the irrigation area north of State Highway 83, irrigation may only occur within the legal boundaries of the property legally described as Section 1, SO 18153, as shown on attached **Plan CRC083292-B**, which forms part of this consent.
6. Water for irrigation shall only be used on or applied to land that is subject to a memorandum of encumbrance that complies with the requirements of the agreement entitled "Agreement in Relation to the Allocation of Water for Irrigation" between Meridian Energy Limited and the Mackenzie Irrigation Company Limited dated the 31<sup>st</sup> of October 2006.
7. The consent holder shall, six months prior to this consent being exercised, provide to the Canterbury Regional Council a certificate from the consent holder's solicitor certifying that the memorandum of encumbrance is registered on the computer registers for the land shown on Plan CRC041031 and any other evidence of registration as the Canterbury Regional Council may require (if any).
8. The consent holder shall take all practicable steps to:
  - (a) Ensure that the volume of water used for irrigation does not exceed that required for the soil to reach field capacity; and
  - (b) Avoid leakage from pipes and structures; and
  - (c) Avoid the use of water onto non-productive land such as impermeable surfaces and river or stream riparian strips.

### Transpower Infrastructure

9. The consent holder shall, in relation to any Transpower structures or Transpower transmission lines:
  - (a) Prevent the spray of water onto conductors by adjusting nozzles, turning jets off when the irrigator boom passes by the towers and keeping the irrigator boom away from conductors.
  - (b) Ensure the placement of structures, buildings, planting of trees or encroaching vegetation comply with the set back distances described in the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).

## Water metering

10. The consent holder shall, prior to exercising this consent, install:
  - (a) a water meter(s) that has an international accreditation or an equivalent New Zealand calibration endorsement suitable for use with an electronic recording device, from which the rate and the volume of water taken can be determined to within an accuracy of plus or minus five percent at a location(s) that will ensure the total take of water from Lake Aviemore is measured; and
  - (b) a tamper-proof electronic recording device such as a data logger that shall record (or log) the flow totals every 15 minutes.
11. If the water meter specified in Condition 10 is not an electromagnetic or ultrasonic meter, the consent holder shall, prior to the first exercise of this consent install or make available an easily accessible straight pipe(s) at a location where the total water take is passing through, with no fittings or obstructions that may create turbulent flow conditions, of a length at least 15 times the diameter of the pipe, as part of the pump outlet plumbing or within the mainline distribution system, to allow the Canterbury Regional Council to conduct independent measurements.
12. The measuring and recording device(s) specified in Condition 10 shall:
  - (a) be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording);
  - (b) either:
    - (i) store the entire season's data in each 12-month period from 1 July to 30 June in the following year, which shall be downloaded and stored in a commonly used format and provided to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or
    - (ii) be connected to a telemetry system which collects and stores all of the data continuously with an independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted;
  - (c) be installed by a suitably qualified person in accordance with ISO 1100/1-1981 (or equivalent) and the manufacturer's instructions;
  - (a) be maintained throughout the duration of the consent in accordance with the manufacturer's instructions; and
  - (b) be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.
13. All practicable measures shall be taken to ensure that the water meter and recording device(s) specified in Condition 10 are at all times fully functional and meet the accuracy standard stated in that condition.
14. Within one month of the installation of the measuring or recording device(s) specified in Conditions 10 (or any subsequent replacement devices), the consent holder shall provide a certificate to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
  - (a) the measuring and recording device(s) is installed in accordance with the manufacturer's specifications; and
  - (b) data from the recording device(s) can be readily accessed and/or retrieved in accordance with these conditions.
15. At five yearly intervals or at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying that:

- (a) the water meter(s) is measuring the rate of water taken as specified in these conditions; and
- (b) the tamper-proof electronic recording device is operating as specified in these conditions.

### **Fish Screen**

- 16. Water shall only be taken when a fish screen with a maximum mesh width and height size of 3 millimetres or slot width and height of 2 millimetres is operated and maintained across the intake to ensure that fish and fish fry are prevented from passing through the intake screen.
- 17. The fish screen shall be positioned to ensure that there is unimpeded fish passage to and from the waterway and to avoid the entrapment of fish at the point of abstraction, and to minimise the risk of fish being damaged by contact with the screen face.
- 18. The fish screen shall be designed and installed to ensure that:
  - (a) the majority of the screen surface is oriented parallel to the direction of water flow.
  - (b) where practicable, the screen is positioned in the water column a minimum of 300 millimetres above the bed of the waterway and a minimum of one screen radius from the surface of the water.
  - (c) the approach velocity perpendicular to the face of the screen shall not exceed 0.06 metres per second if no self-cleaning mechanism exists, or 0.12 metres per second if a self-cleaning mechanism is operational.
- 19. The fish screen shall be designed or supplied by a suitably qualified person who shall ensure that the design criteria specified in condition (WP10)(a) –(c)(iv) of this consent is achieved. Prior to the installation of the fish screen, a report containing final design plans and illustrating how the fish screen will meet the required design criteria, and an operation and maintenance plan for the fish screen shall be provided to Environment Canterbury, Attention: RMA Compliance and Enforcement Manager.
- 20. A certificate shall be provided to Environment Canterbury by the designer or supplier of the fish screen to certify that the fish screen has been installed in accordance with the details provided to Environment Canterbury in accordance with condition (WP10)(a) of this consent.
- 21. The fish screen shall be maintained in good working order. Records shall be kept of all inspections and maintenance, and those records shall be provided to Environment Canterbury upon request.

### **Nutrient Loading**

- 22. For the purposes of interpretation of the conditions of this consent "Aviemoire and Otematata Stations" shall be defined as those areas identified on Map A in the Farm Environmental Management Plan (attached to these conditions and marked **CRC083692-C**), which total approximately 40,058 hectares.
- 23. The consent holder shall prepare once per year:
  - (a) an Overseer<sup>®</sup> nutrient budgeting model report not less than one month prior to the commencement of the irrigation season; and
  - (b) a report of the annual farm nutrient loading for Aviemoire and Otematata Station using the model Overseer<sup>®</sup> (AgResearch model version number 5.4.3 or later).
- 24. When undertaking the modelling outlined in Condition 0, the consent holder shall use either weather records collected on-farm or from constructed data from the nearest weather station.
- 25. A copy of the reports prepared in accordance with Condition 0 shall be given to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager within one month of their completion.

26. The consent holder shall not commence annually irrigation under this consent unless the annual (1 July to 30 June) nutrient loading (the nutrient discharge allowances (NDAs)) as estimated in accordance with Condition 0 from Aviemore and Otematata Station does not exceed 97,622 kg of Nitrogen and 2,390 kg of Phosphorus. Where the NDAs have been reduced by the application of a receiving water quality nutrient trigger condition, the reduced NDA shall apply.
27. The NDAs, incorporating any reductions required by receiving water quality nutrient trigger conditions, shall be complied with from the commencement of consent.
28. Where Overseer, or Overseer modelling, is referred for the purposes of calculating or determining compliance with the NDA limits associated with activities on the property, it shall be undertaken by an independent person with an Advanced Sustainable Nutrient Management Certificate issued by Massey University or an equivalent qualification
29. The consent holder shall at all times comply with the Farm Environmental Management Plan (FEMP) in particular, the mitigation measures and monitoring set out in section 5 of the FEMP for Aviemore and Otematata Station, which is attached to these conditions and marked **CRC083692-C**.
30. Subject to Condition 29, the consent holder shall implement, and update annually the FEMP for Aviemore and Otematata Station. The FEMP shall include:
  - (a) Verification of compliance with NDAs (incorporating any reductions required by receiving water quality nutrient trigger conditions) by farm nutrient modelling using the model Overseer (AgResearch model version number 5.4.3 or later).
  - (b) Implementation of Mandatory Good Agricultural Practices ("MGAPS") and requirements to manage in accordance with the Aviemore and Otematata Station Overseer model inputs.
  - (c) The Overseer parameter inputs report, which shall be supplied to the Canterbury Regional Council.
  - (d) A property specific environmental risk assessment (including a description of the risks to water quality arising from the physical layout of the property and its operation which are not factored in as an Overseer parameter) prepared by a suitably qualified person which identifies any farm specific environmental risks along with measures to mitigate the farm specific environmental risks.
  - (e) A requirement to review the risk assessment if there are any significant changes in land use practice.
31. Detailed records shall be maintained of fertilizer application rates, types of crops (including winter feed/forage crops), cultivation methods, stock units by reference to type, breed and age, prediction of realistic crop yields that are used to determine crop requirements and all other inputs to the Overseer nutrient budgeting model.
32. A report on Overseer modelling shall be provided within one month of completion of the Overseer modelling by the person with the qualifications described in Condition 28 and no later than two months prior to the start of the next irrigation season to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager. The consent holder shall supply to the Canterbury Regional Council all model inputs relied upon for the annual Overseer® modelling.
33. Changes may be made to the Aviemore and Otematata Station Overseer model inputs, provided that written certification is provided that the change is modelled using Overseer, and that the result of that modelling demonstrates that the NDAs are not exceeded. A copy of that certification plus a copy of the resultant Overseer parameter report shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, prior to the implementation of that change.

### **Subdivision**

34. The NDAs shall be recalculated if there is a sale or transfer of any part, but not the whole, of the total farm area of 40,058 hectares. The recalculated NDAs shall be undertaken to accurately redistribute the NDA between the resultant properties and shall replace the NDAs specified in Condition 26. The new NDAs may be recalculated on any proportion as long as the total of all the NDAs does not exceed the NDAs of the parent title as set out in Condition 26. The recalculation of

the NDAs shall be undertaken and certified using Overseer, completed and provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager together with a copy of the full Parameter report, within one month of the sale or transfer.

### **Fertiliser and soil management**

35. Fertiliser shall be managed and applied in accordance with 'The Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07' or any subsequent updates.
36. The consent holder shall keep a record of all fertiliser applications applied to the property, including fertiliser type, concentration, date and location of application, climatic conditions, mode of application and any report of the fertiliser contractor regarding the calibration of the spreader.
37. For land based spreading of fertiliser:
  - (a) where an independent fertiliser spreading contractor is used the consent holder shall keep a record of the contractor used, which can be supplied to the Canterbury Regional Council upon request; or
  - (b) where the applicant's own fertiliser spreaders are used, the consent holder shall test and calibrate the fertiliser spreaders at least annually, and every five years the fertiliser spreader will be certified by a suitably qualified person in accordance with 'The Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07' or any subsequent updates and the results of testing shall be provided to the Canterbury Regional Council upon request.
38. Nitrogen fertiliser shall not be applied to land between 31<sup>st</sup> May and 1<sup>st</sup> September.
39. All fertiliser brought onto the property which is not immediately applied to the land shall be stored in a covered area that incorporates all practicable measures to prevent the fertiliser entering waterways.
40. Applications of nitrogen fertiliser shall not exceed 50 kg nitrogen / hectare per application.
41. If liquid fertilisers, excluding liquid effluent, are stored on-site for more than three working days, the consent holder shall ensure that the fertiliser is stored in a bunded tank, at least 110% of the volume of the tank to avoid any discharge to surface or groundwater and such that it is also protected from vehicle movements.
42. Fertiliser filling areas shall not occur within 50 metres from a water course, spring or bore.
43. For land based spreading, fertiliser should not be applied within 20 metres of a watercourse.
44. Where practicable, the consent holder shall:
  - (a) use direct drilling as the principal method for establishing pastures; and
  - (b) sow and irrigate all cultivated areas within the irrigation area as soon as possible following ground disturbance.

### **Irrigation Infrastructure**

45. The consent holder shall ensure that all new irrigation infrastructure (not on the property at the time of commencement of this consent) is:
  - (a) designed and certified by a suitably qualified independent expert holding a National Certificate in Irrigation Evaluation Level 4, and installed in accordance with the certified design. Copies of certified design documents shall be provided to the Canterbury Regional Council upon request; and
  - (b) tested within 12 months of the first installation of the new irrigation infrastructure and afterwards every five years in accordance with the 'Irrigation Code of Practice and Irrigation Design Standards, Irrigation NZ, March 2007' (code of practice) by a suitably qualified independent expert.

46. Within two months of the testing referred to in Condition 45(b) the expert shall prepare a report outlining their findings and shall identify any changes needed to comply with the code of practice. Any such changes shall be implemented within five years from the date of the report. A copy of the report shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager, within three months of the report being completed.
47. If existing irrigation infrastructure is being used, the consent holder shall obtain an evaluation report prepared by a suitably qualified person, on the following terms:
- (a) The evaluation shall determine the system's current performance in accordance with the Code of Practice for Irrigation Evaluation.
  - (b) This report shall be obtained within three months of the first exercise of the consent.
  - (c) Any recommendations identified in the report shall be implemented within five years from the date of receipt of the report.
  - (d) A copy of the report shall be forwarded to the Canterbury Regional Council within three months of the report being completed.

### **Fertigation**

48. If the irrigation system used in association with taking water in terms of this permit is to be used to distribute effluent, fertiliser or any other added contaminant, then one of the following shall be installed upstream of the point of addition of the effluent, fertiliser or other added contaminant:
- (a) a reduced pressure zone device (RPZD), or
  - (b) a pressure vacuum breaker (PVB), or
  - (c) an air gap backflow prevention system.
49. Installation of a RPZD or a PVB shall be in accordance with section 9 (PVB) or section 12 (RPZD) of Australian/New Zealand Standard AS/NZS 2845.1 Water supply - Backflow prevention devices, Part 1: Materials, design and performance requirements, or an equivalent standard.
50. An air gap backflow prevention system shall have an unobstructed vertical air gap separation of at least twice the diameter of the inlet pipe, from the lowest point of the inlet pipe to the flood level rim of the receptacle into which it discharges.
51. Field testing and maintenance shall be carried out of an RPZD or a PVB at commissioning of the use of the system for application of effluent or fertiliser and annually afterwards, in accordance with AS 2845.3 Water supply—Backflow prevention devices, Part 3: Field testing and maintenance, or an equivalent standard.
52. An air gap backflow prevention system shall be tested at commissioning and annually afterwards. Maintenance shall be undertaken as necessary to ensure that backflow prevention is effective.
53. Installation, testing and maintenance shall be undertaken by a certified irrigation evaluator. A report on the annual testing shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within two weeks of initial commissioning and within two weeks of each annual testing. Each report shall be accompanied with the name, qualifications and experience of the person who undertook the installation, testing or maintenance.

### **Review of conditions**

54. The Canterbury Regional Council may, once per year, on any of the last five working days of March or July serve notice of its intention to review the conditions of this resource consent for the purposes of dealing with any adverse effect on the environment which may arise from the exercise of the resource consent and which it is appropriate to deal with at a later stage.

### **Lapse**

55. The lapsing date for the purposes of section 125 of the Resource Management Act shall be five years from the commencement of this consent.

***Advice notes:***

- *The discharge of effluent, fertiliser or any contaminant would require authorisation as a permitted activity or via a discharge permit. Contact the Canterbury Regional Council for advice on the relevant regional rules.*
- *If any additional land use consents are required to carry out the proposed activity, those consents must be obtained before giving effect to this consent.*

