

Meridian

*In the matter of:* the Resource Management Act 1991 (Act)

*and*

*in the matter of:* the hearing of submissions and further submissions by Meridian Energy Limited on Plan Change 13 (Mackenzie Basin) to the Operative Mackenzie District Plan

*between Meridian Energy Limited*

*Submitter*

*and Mackenzie District Council*

*Territorial Authority*

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Statement of evidence of Richard Turner on behalf of  
Meridian Energy Limited

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Dated: 9<sup>th</sup> September 2008

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**Chapman Tripp Barristers & Solicitors**  
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PO Box 2206, Fax +64 9 357 9099  
Auckland, NZ. DX CP24029  
*Reference: C J Somerville*

## Introduction

1. My full name is Richard Jonathon Turner.

2. I hold the qualification of Bachelor of Planning (Hons) from the University of Auckland.

3. I am a full member of the New Zealand Planning Institute and have approximately 8 years experience in planning and resource management matters, almost all of which have been gained within the electricity industry.

4. I am currently employed as Meridian Energy Limited's ('Meridian') Planning Manager, Natural Resources in Christchurch.

5. I have been employed by Meridian for approximately 2 ½ years. My current areas of responsibility relate to planning and resource management issues that affect Meridian's existing electricity generation infrastructure and potential development aspirations. This includes responding to national, regional and district planning documents that have the potential to impact upon the Company's existing operations, water entitlements and growth and development prospects.

6. I am also currently responsible for managing Meridian's involvement in the renewal and new resource consent applications to take water for various uses in the Upper Waitaki Catchment.

7. While I am a qualified planner, this evidence is not planning evidence for the purposes of Meridian's submissions on Proposed Plan Change 13 to the Mackenzie District Plan ('PC13'). This evidence is presented as a representative of Meridian and I am authorised to present this evidence on behalf of the Company.

## Scope of evidence

8. The purpose of this evidence is to provide an understanding of Meridian's operations and interests in the Mackenzie Basin and why the Company is concerned with the planning framework proposed under PC13.

9. In particular, I will be presenting evidence on the following topics:

9.1 Introduction to Meridian;

9.2 Meridian's Interests in the Mackenzie Basin;

9.3 Meridian's interest in PC13; and

9.4 Response to Planner's Report.

10. Meridian is a limited liability company wholly owned by the New Zealand Government. It is one of three companies formed from the split of the Electricity Corporation of New Zealand (ECNZ) on 1 April 1999.

11. Meridian's Statement of Corporate Intent states that: "Meridian Energy's nature and scope of activities is the generation of electricity (including the ownership and operation of related assets), the management of water related infrastructure, and the marketing, trading and retailing of energy and wider complementary products, solutions and services primarily in New Zealand".

12. As a State Owned Enterprise, Meridian is required by statute to operate as a successful business. A component of that requirement is to be an organisation that exhibits a sense of social responsibility by having regard to the interests of the community.

13. Meridian's objectives include maximising long term shareholder value by its commitment to sustainable management and the development of the natural, physical and human resources utilised in its business.

14. Meridian is the single largest generator of electricity in New Zealand. Its hydro generation and storage capacity accounts for approximately 34% of New Zealand's electricity generating capacity and 77% of New Zealand's hydro storage capacity.

15. When Meridian was formed on 1 April 1999 the assets associated with the Waitaki Power Scheme, the Manapouri Power Scheme and the Brooklyn Wind Turbine were acquired. Meridian is currently nearing completion of Project West Wind, a wind farm project near Wellington comprising 62 turbines up to 2.3MW each. Meridian completed the 90MW Te Aitī Wind Farm in the Manawatu in 2004 and the 58MW White Hill Wind Farm in Northern Southland in 2007. You may also be aware that Meridian is currently awaiting a decision from Environment Canterbury on the water consent applications for the North Bank Tunnel hydro proposal.

16. Meridian is also actively investigating and pursuing options for new renewable generation capacity and is investigating a number of sites throughout New Zealand that have potential for wind or hydro development.

17. On 22 November 2004 Meridian announced its commitment to generate electricity solely from renewable energy sources in the future. This decision has not been made because it was easy or because it is one with high financial rewards. Meridian has chosen this path because it considers it is the right thing for New Zealand now and in the future and it reflects international and domestic policy imperatives and the preference of the public of New Zealand.

18. Meridian also continues to upgrade and enhance its existing hydro generation assets in the Waitaki Catchment and at Manapouri. These works include the re-running of the turbines at the Benmore Power Station and the Second Manapouri Tallrace Project and help ensure that Meridian's existing generation portfolio is operating as efficiently as possible and generation capacity is optimised.

19. Meridian's interests in the Mackenzie District, and as such the Mackenzie Basin, are centered on the Waitaki Hydro-Electric Power Scheme (the 'Waitaki HEPs'). The Waitaki HEPs also traverses through parts of the Waitaki and Waimate Districts. The eight power stations that make up the Waitaki HEPs supply approximately 8,000GWh or 20% of New Zealand's electricity. The infrastructure that makes up the Waitaki HEPs is, therefore, of national significance.

#### **Meridian's Interests in the Mackenzie Basin**

20. The Waitaki HEPS begins at Lake Tekapo in the north-east corner of the Mackenzie Basin. A schematic map of the Waitaki HEPS is attached as Annexure 1 to this evidence.
21. The outlet flow from Lake Tekapo is controlled by a control gate across the natural outlet to the Tekapo River and the intake on the southern shoreline of the lake. The operating range of Lake Tekapo is limited by resource consents granted to Meridian. These consents set an extreme minimum control level of 701.8m and a maximum control level of 710.9m.
22. The intake on the southern shoreline allows water to be conveyed via a tunnel to the 25MW Tekapo A Power Station, the tailrace of which is the commencement of the Tekapo Canal. While water from Lake Tekapo most frequently enters the Tekapo Canal via the Tekapo A Power Station, it can also be released from the lake control gate and diverted into the canal through a gate structure at Lake George Scott. The resource consents for the operation of the control gates across the outlet of the Tekapo River allow Meridian to discharge up to 850 cumecs down the river during flood or emergency events. A copy of the resource consent that authorises this discharge is attached as Annexure 2 to this evidence.
23. The Tekapo Canal effectively enables the transfer of water from Lake Tekapo to Lake Pukaki. The Tekapo Canal is 27km long and travels in a south-west, then western direction to the shores of Lake Pukaki. It traverses some major tributaries of the Mackenzie Basin, including Fork Stream, Irishman Creek and the Maryburn Stream. Mr. Connell's evidence explains the key features of the Tekapo Canal as a dam structure.
24. At the conclusion of the Tekapo Canal, water is discharged, via penstocks, to the 145MW Tekapo B Power Station which sits in the bed of Lake Pukaki.
25. Lake Pukaki is New Zealand's principal hydro storage lake and is impounded by the Pukaki High Dam. The consents for the operation of Lake Pukaki set an extreme minimum control level of 518m and a maximum control level of 532.5m. Water is released from the lake either through the spillway (during times of flood) or, as is the norm, into the Pukaki Canal. The resource consents for the spillway enable Meridian to discharge a flow of up to 3,400 cumecs down the Pukaki River. A copy of the resource consent that authorises this discharge is also included in Annexure 2 to this evidence. Water would generally only be discharged down the Pukaki River by Meridian during flood or emergency events.
26. The Pukaki Canal is 12km long and travels in a south-west direction, passing behind Twizel and traversing the Twizel River and Tay Stream. Of note is that the Pukaki Canal has an overtopping spillway structure only a few hundred metres downstream of its outfall from Lake Pukaki. This spillway is provided to prevent overtopping of the canal embankments in an emergency situation and is not intended for routine use. The spillway is consented and Meridian are authorised to discharge up to 560 cumecs across land to the Pukaki River. A copy of the

resource consent that authorises this discharge is also included in Annexure 2 to this evidence.

27. The Pukaki Canal converges with the Ohau Canal near Old Glen Lyon Road. The Ohau Canal enables water from Lake Ohau to be diverted for electricity generation through the Ohau A, B and C Power Stations. The waters of Lake Ohau are impounded by a control weir across the natural outlet to the Ohau River and the lake has an extreme minimum control level of 519.45m and a maximum control level of 519.75m. Almost all of Lake Ohau is located within the Waitaki District, although the canal intake and the Ohau Canal itself are still located in the Mackenzie District.

28. The combined flow of the Pukaki-Ohau Canal is diverted through the Ohau A Power Station (264MW) which discharges into Lake Ruataniwha, an important recreational facility in the Mackenzie Basin. Water in Lake Ruataniwha is normally diverted into the Ohau B – C Canal, which conveys water for use in the Ohau B and Ohau C Power Stations (both 212MW). The water is then discharged through the tailrace of the Ohau C Power Station into Lake Benmore. It should be noted that the boundary for the Mackenzie and Waitaki Districts runs through the middle of Lake Ruataniwha and that the Ohau B – C Canal is located within the Waitaki District.

29. The Benmore Dam across the Waitaki River creates Lake Benmore, the waters of which are used at the Benmore Power Station (540MW). Water can be discharged to Lake Avemore through the tailrace (after use in the power station), the sluice gates, or the spillway. The operating range on Lake Benmore is limited to 0.95 metres. Lake Benmore is also the meeting point for the boundaries of the Mackenzie, Waitaki and Waimate Districts.

30. The Avemore and Waitaki Power Stations (238 and 90MW respectively) are located downstream of the Benmore Power Station, but are not located within the jurisdiction of the Mackenzie District.

#### The Importance of the Waitaki HEPS

31. The Waitaki HEPS provides approximately 60% of New Zealand's national hydro storage. This storage is critical to enabling the traditionally higher summer inflows to Lakes Tekapo, Pukaki and Ohau to be retained so that hydro power can be generated cheaply and reliably during the winter periods when consumer demand is highest. The storage within the Waitaki HEPS is also used to effectively enable the variable supply that goes with the daily cycle of use – peaks in the morning and evening, and low requirements over night.

32. The Waitaki HEPS has a critical role in supporting the transfer of power to the North Island through the High-Voltage Direct Current (HVDC) link during certain conditions (acknowledging that more recently the HVDC link is being used to bring power from the North Island to the South Island). Its flexibility enables North Island thermal stations to be supplemented with peak capacity during the morning and evening consumer peaks, or South Island hydro storage to be conserved and South Island generation to be supplemented when hydro storage and inflows are low. Without this variability, both the North Island and South Island would need to

install more, but poorly utilised, standby generating capacity to provide a reliable and secure electricity supply.

33. The Waitaki HEPs's flexibility is also critical to supporting wind generation. Wind generation is the cheapest source for new electricity production in New Zealand at the present time, and hydro flexibility can back up wind plant when it is not producing, while wind in turn allows hydro storage to be conserved. This is a critical advantage that New Zealand has over other countries, as the development of hydro was a critical advantage for New Zealand's international competitiveness. The Waitaki HEPs is also central to the achievement of the Government's 90% renewable energy target by 2025. In this respect, the New Zealand Energy Strategy, which was released in October 2007, includes the following actions:

(a) *"The Government has set a target of 90% of electricity to be generated from renewable sources by 2025 (based on an average hydrological year)".*

(b) *"The Government is developing a NPS on renewable energy in 2008".*

(c) *"The Electricity Commission and Transpower are developing planning processes and guidelines to coordinate transmission and renewables investment".*

35. The Proposed National Policy Statement on Renewable Electricity Generation, which was released in August 2007, also seeks to recognise the importance of renewable electricity by promoting the development, upgrading, maintenance and operation of new and existing renewable electricity generation activities, such that 90% of New Zealand's electricity will be generated from renewable sources by 2025.

36. Developments or initiatives that impact on the maximum consented operation of the Waitaki HEPs will in turn impact on the ability of the country to meet the 90% renewable energy target by 2025. In this regard, the 90% target will become more difficult to achieve if we erode or constrain the generation potential of our existing renewable energy infrastructure.

### **Meridian's Interests in Plan Change 13**

37. As has been explained in the legal submissions of Ms Somerville, Meridian's interest in PC13 is twofold. Firstly, Meridian is concerned as to how PC13 seeks to control the maintenance, operational and upgrade activities undertaken by the Company in the Mackenzie Basin. Secondly, Meridian is interested in how PC13 seeks to control land use development by other parties in the Basin, particularly residential subdivision and development within close proximity to the Waitaki HEPs. These two issues are discussed in detail as follows.

### **Control of Meridian's Activities**

38. Most of Meridian's day to day electricity generation activities are controlled by resource consents granted by Environment Canterbury to ECNZ in 1990, and later transferred to Meridian. This said, Meridian does undertake a range of ancillary

and maintenance / upgrade activities that fall within the jurisdiction of the Mackenzie District Council and the Mackenzie District Plan. These activities include:

- 38.1. The placement of erosion protection works around the edge of Lake Pukaki (some of these works constitute buildings under the Resource Management Act and the Mackenzie District Plan);
- 38.2. The sourcing and storage of aggregate material for future erosion protection purposes;
- 38.3. Modifications and upgrades to the range of facilities at the power stations and other key parts of the Scheme (for example, Meridian is presently in the process of applying for resource consents to install water tanks and a building to house a pump device at the Tekapo A Power Station for fire protection purposes); and
- 38.4. Earthworks associated with investigation and remedial works.

39. Some of these activities are permitted under the list of Scheduled Activities in the Rural Section of the Mackenzie District Plan, which enables Meridian to undertake routine maintenance and minor upgrade work as of right. However, other activities that are undertaken by Meridian are full discretionary activities (such as the erosion protection works), requiring assessment against the objectives and policies of the District Plan. Meridian is therefore concerned as to how PC13 may impact or relate to the Scheduled Activities rules associated with the Waitaki HEPS.

40. In particular, Meridian is concerned as to how the objectives and policies of PC13 would apply to any of its maintenance or upgrade activities that require resource consent as a discretionary activity, given that some of these activities will often be located in parts of the Mackenzie Basin that are valued landscapes or in highly visible areas. In many cases the location of these maintenance and upgrade activities will be constrained by operational or locational constraints. That is, the works can not be moved to a less visible part of the Basin due to the location of the infrastructure.

Control of Third Party Activities

41. Meridian has become aware of an influx of residential subdivision applications and proposed developments in the Mackenzie Basin over recent years. Some of these subdivisions and developments are located within close proximity to the Waitaki HEPS and associated infrastructure. In some cases, Meridian has become aware of these subdivision applications or developments early in the consenting process and has been able to work with the applicants and Council staff to ensure that any effects on the Waitaki HEPS and ancillary activities are avoided or minimised. In other circumstances, Meridian has not become aware of applications until after resource consents have been granted by the Council.

42. The location and proliferation of residential subdivision and development within close proximity to the Waitaki HEPS can have reverse sensitivity effects on the infrastructure. In this regard, development in certain locations or the proliferation of development could have the following impacts:

42.1. Restrict the ability to undertake routine, but important, operational and dam safety maintenance and surveillance activities (for example, residential development blocking the line of sight between tiltmeters or stormwater ponds being created near observation wells);

42.2. Increases in stormwater discharges across Meridian's land and infrastructure (recent examples have included proposals to potentially discharge stormwater into the Tekapo Canal and across earth dams embankments) and the subsequent water quality impacts associated with these discharges;

42.3. Increases in demand for water for various domestic and commercial uses;

42.4. Increases in the use of Meridian's roads for access to properties; and

42.5. Potentially constrain Meridian's consented activities (i.e. through the placement of structures or building in the path of emergency spillways).

43. Given the above, Meridian is supportive in principle of PC13's proposal to focus residential subdivision and development in particular locations of the Mackenzie Basin. This planning framework has the potential to ensure that development is physically separated from Meridian's infrastructure and the potential for reverse sensitivity effects are avoided or minimised; or at least considered as part of the assessment process.

44. This said, Meridian does have concerns with some of the areas identified for future residential subdivision and development. As Mr. Connell will explain, some of the Landscape Sub-Areas ('LSAs') identified to support future residential nodes could impact on the Potential Impact Classification ('PIC') of the dam structures owned by Meridian (identified as M6-M8 in the attachment to Meridian's original submission). This in turn could require substantial remedial works to ensure the dam structures comply with the applicable legislation and dam safety guidelines.

*Pukaki High Dam and Lake Pukaki*

45. Meridian is also concerned with the prospect of a LSA (identified as M5 in the attachment to Meridian's original submission) and subsequent nodes potentially being developed downstream of the Pukaki High Dam. As I have explained previously, the maximum consented discharge through the Lake Pukaki Spillway is 3,400 cumecs. While it is highly unlikely that the spillway would ever be required to pass this volume of water, it is important for dam safety requirements that the flow channel and environment downstream of the spillway is maintained so as to ensure that this flow can be passed if necessary.

46. As can be seen from Annexure C to the evidence of Mr. Gimblett, it becomes clear when the expected flow path of the maximum consented discharge down the full extent of the bed of the Pukaki River is overlaid with the LSA, that the majority of



this area is not suitable for residential subdivision and development. Development in this area would also erode Meridian's ability to fully exercise its consented rights (regardless of how frequently this might occur) and could impact on its ability to achieve its obligations as a responsible dam owner.

47. Meridian also seeks to refine the LSA's in the vicinity of the lakeshore of Lake Pukaki (identified as M1-M4 in the attachment to Meridian's original submission). While I note that the policies of PC13 refer to a setback of 100m from the edge of lakes and rivers, Meridian has sought to trim these LSA's back in order to recognise that the lakeshore of Lake Pukaki is subject to ongoing erosion.

48. Lake Pukaki was subject to erosion prior to the two lake level raising events in the 1950's and 1970's. However, as a result of the lake level raising that has occurred the lake has had to develop a totally new suite of shoreline landforms, morphologies, and sediment deposits that are entirely unrelated to the wave and current regime. This initiated a new evolution sequence of shoreline development that involves the down-grading of the near shore profile into a new near shore platform, thus resulting in back shore retreat.

49. Given this, Meridian submits that it would be prudent to ensure development is set back a suitable distance from the lake edge so as to take into account the prospect of medium and long term erosion, and also to ensure that a range of erosion management options remain available (in this regard, erosion protection works to slow the rate of shoreline erosion are not a feasible option in all locations due to the size of the cliffs and the lake slope profile).

*Issues associated with Water Supply*

50. Meridian is also interested in how PC13 seeks to manage residential subdivision and development in light of the fact that the Upper Waitaki Catchment is already fully allocated. In this regard, the High Court (in the *Aoraki Decision*) and the Waitaki Allocation Board ('WAB') both acknowledged that the Upper Waitaki Catchment is fully allocated. To this end, a footnote to the key allocation table (Table 5) in the Waitaki Catchment Water Allocation Regional Plan ('WAP') clearly states that:

*"while the consents to operate the Waitaki Power Scheme remain in force, the Upper Waitaki Catchment is already fully allocated to Meridian and other existing consent holders"*

51. Given these circumstances, consents to take water from the Upper Waitaki Catchment for any use cannot be granted by Environment Canterbury without the derogation approval of Meridian. Meridian considered its position in relation to replacement and new resource consent applications to take water for town and community water supply in 2007 and Meridian's Board decided that it will continue to provide derogation approval for these applications on the basis that the volumes of water being sought are 'reasonable' and meet the definition of town and community supply in the WAP (i.e. water is not used for other uses such as irrigation).

52. While this means that water for residential development and subdivision is presently available, it needs to be recognised that Meridian's position in relation to future takes for town and community supply may change in the medium or long

term. While it is difficult to contemplate the circumstances whereby Meridian would review its position in relation to takes of water for town and community supply, examples could potentially include a 'gold rush' of applications for town and community supply or adverse hydrological conditions.

53. With this in mind, it is Meridian's view that it is necessary and appropriate that PC13 requires appropriate consideration of issues such as access to water supply when resource consent applications are made to establish residential nodes within the Mackenzie Basin. While any decisions on applications to take water rest with Environment Canterbury, it is consistent with integrated management for PC13 to at least give consideration to how the node will be serviced for essential services.

#### Response to Planner's Report

54. I note that Mr. Densem has commented in Paragraph 144 of his Report ('Technical Assessment L1: Landscape Assessment Of Issues Arising From Public Submissions and Further Submissions') that:

*"Meridian's safety margins were not specifically taken into account in drawing up the Landscape Sub-Areas due largely to Meridian not supplying information on the areas and facilities of concern. This matter was I understand raised in consultation but not followed up by Meridian"*

55. I was the person that the Council undertook consultation with on PC13 in 2007. I recall the request for information on areas of concern to Meridian being made by Mr. Lyon on behalf of the Council. It was my understanding that Mr. Lyon was particularly interested in any maps or GIS information that mapped sensitive or 'no-go' areas from Meridian's perspective.

56. No information was provided to the Council as the simple fact is that Meridian does not hold a compendium of information that identifies areas around the Mackenzie Basin that would be of concern if residential development occurred there or nearby. However, it should be noted that Meridian did have discussions with Mr. Lyon during consultation on PC13 about concerns with residential development along the edges of Lakes Tekapo and Pukaki, and had several discussions over the course of Mr. Lyon's time with the Council about the prospect of development occurring around the Pukaki - Ohau Canal and the sensitivity of that area for Meridian's monitoring and surveillance programme.

57. Notwithstanding this, once PC13 was publicly notified Meridian was able to focus on the LSA's that had by that time been identified by Mr. Densem, and provide detailed comments in its submissions on areas where it considered to unsuitable for potential residential development and subdivision due to potential impacts on Waitaki HEPS. The reality is that the Council, through Meridian's submission on PC13, does have an indication of the areas of concern to the Company.

#### Conclusion

58. In summary, it should be recognised that Meridian is largely supportive of the approach adopted in PC13 in terms of identifying LSA's where nodes for residential development and subdivision should be focused. This approach has the potential to enable residential development and subdivision to continue in the Mackenzie Basin,

but in a manner that ensures that any reverse sensitivity effects on Meridian are avoided or minimised.

59. This said, Meridian does consider that amendments to some of the LSAs are required in order to avoid effects on the Waitaki HEPS. These amendments are discussed in more detail in the evidence of Mr. Connell and Mr. Gimblett.

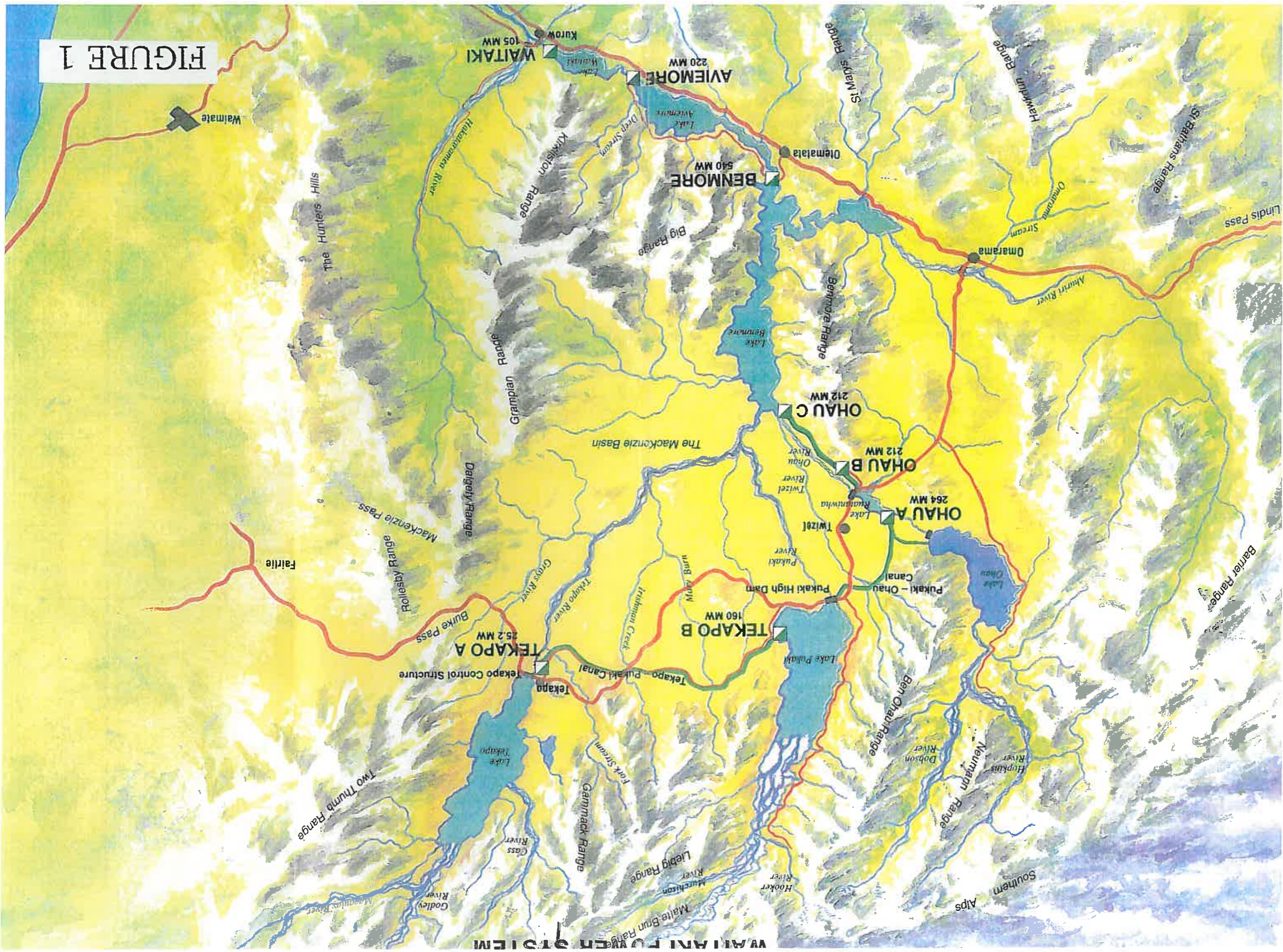
60. Meridian also considers that the policy framework of PC13 needs to recognise the unique circumstances associated with the Waitaki HEPS and the fact that much of the works associated with the Scheme face locational and operational constraints which means that they may need to occur in highly visible locations or in areas valued for their landscape values.

61. Finally, the need to protect and enable the continued full operation of the Waitaki HEPS is consistent with the NZES and the Proposed National Policy Statement on Renewable Electricity Generation, which seek to ensure that 90% of energy is generated from renewable sources by 2025. This target will be compromised if residential subdivision and development in the Mackenzie Basin is able to occur in a manner that impacts on the efficient and effective operation of existing hydro infrastructure.

Richard Turner  
9 September 2008



FIGURE 1



**Annexure 2 – Resource Consents for the Operation of Spillways**

CRC905304

*Act 1991*

of 850 cubic metres per second  
control structure at or about map

740 GAZ 1962 P789

rights which the Grantee holds in  
the system, in such a manner as to  
the rights on the Waitaki River

is taken/discharged/diverted, at a  
the Water Resources Manager, at a  
bi-annually.

of the fluctuations in the river/lake  
Kapoo Control Structure and Lake  
Canterbury Regional Council.

es Manager, Canterbury Regional  
is likely to occur as a result of the

- b) make such remedial repairs which the Water Resources Manager, Canterbury Regional Council, may require remedy damage from erosion which occurs as a result of the exercise of this right.
- 8) The Grantee shall manage and operate spill flows in accordance with the provisions contained in "Waitaki Power Development, Appendix A, Extracts of Waitaki Operating Rules, 9 November 1990" (attached).

ISSUED AT CHRISTCHURCH ON 5 AUGUST 1999



Belinda Donaldson  
REGULATORY ADMINISTRATION OFFICER  
on behalf of the Canterbury Regional Council

**RESOURCE CONSENT**  
*Pursuant to Section 137 of the Resource Management Act 1991*  
 The Canterbury Regional Council

**TRANSFERS TO:** MERIDIAN ENERGY LIMITED

**A DISCHARGE PERMIT:** to discharge water up to a maximum rate of 3,400 cubic metres per second into PUKAKI RIVER, at or about map reference H38:820-649 via Lake Pukaki Control Structure Spillway.

**DATE COMMENCED:** 01-FEB-1991  
**DATE TRANSFERRED:** 05-AUG-1999  
**EXPIRY DATE:** 30-APR-2025

**IN CONNECTION WITH THE FOLLOWING PROPERTY:**  
 TEKAPO TWINZEL ROAD (SH81), LAKE PUKAKI  
 R4443 R5068 R5074 GAZ 1978 P538 PT R3702 R2947 R5071 R5072 GAZ  
**LEGAL DESCRIPTION:** R4443 R5068 R5074 GAZ 1978 P538 PT R3702 R2947 R5071 R5072 GAZ  
 1966 P1099 - MORE ON FILE

**SUBJECT TO THE FOLLOWING CONDITIONS:**

This right is subject to the Conditions 1,3,4,7,8,9 as per attached schedule.

1) The Grantee shall exercise this right in conjunction with all other rights which the Grantee holds in connection with the generation of electricity within the Waitaki River system, in such a manner as to minimise, as far as practicable, any adverse effects of the exercise of the rights on the Waitaki River system.

3) The Grantee shall measure and record the rate at which water is taken/discharged/diverted, at a frequency not less than every 30 minutes, to the satisfaction of the Water Resources Manager, Canterbury Regional Council, and the records supplied to the Council annually.

4) The Grantee shall erect and maintain signs warning of the danger of the fluctuations in the river/lake level at points of public access to the river/lake between Lake Pukaki Control Structure and Lake Benmore, to the satisfaction of the Water Resources Manager, Canterbury Regional Council.

7) The Grantee shall:

a) take such precautionary measures which the Water Resources Manager, Canterbury Regional Council, may require to prevent damage from erosion which is likely to occur as a result of the exercise of this right; and

6/19



b) make such remedial repairs which the Water Resources Manager, Canterbury Regional Council, may require remedy damage from erosion which occurs as a result of the exercise of this right.

8) The Grantee shall manage and operate spill flows in accordance with the provisions contained in "Waitaki Power Development, Appendix A, Extracts of Waitaki Operating Rules, 9 November 1990" (attached).

9) The Grantee shall give at least 24 hours prior warning to the Water Resources Manager, Canterbury Regional Council, and to the Field Centre Manager - Twizel, Department of Conservation, of the intention to exercise this right and shall advise as soon as practicable after incrementing each flow step as stipulated in "Waitaki Power Development, Appendix A, Extracts of the Waitaki Operating Rules, 9 November 1990" (attached).

ISSUED AT CHRISTCHURCH ON 5 AUGUST 1999

Belinda Donaldson  
REGULATORY ADMINISTRATION OFFICER  
on behalf of the Canterbury Regional Council

# RESOURCE CONSENT

*Pursuant to Section 137 of the Resource Management Act 1991  
The Canterbury Regional Council*

**TRANSFERS TO:** MERIDIAN ENERGY LIMITED

**A DISCHARGE PERMIT:** to discharge water up to a maximum rate of 560 cubic metres per second from the Pukaki-Ohau Canal into PUKAKI RIVER, at or about map reference H38:802-637 via Spill Channel.

**DATE COMMENCED:** 01-FEB-1991  
**DATE TRANSFERRED:** 05-AUG-1999  
**EXPIRY DATE:** 30-APR-2025

**IN CONNECTION WITH THE FOLLOWING PROPERTY:**  
**LOCATION:** TEKAPO TWIZEL ROAD (SH81), LAKE PUKAKI  
**LEGAL DESCRIPTION:** R4443 R5068 R5074 GAZ 1978 P538 PT R3702 R2947 R5071 R5072 GAZ 1966 P1099 - MORE ON FILE

## SUBJECT TO THE FOLLOWING CONDITIONS:

This right is subject to the Conditions 1,3,7,8,9, as per attached schedule.

- 1) The Grantee shall exercise this right in conjunction with all other rights which the Grantee holds in connection with the generation of electricity within the Waitaki River system, in such a manner as to minimise, as far as practicable, any adverse effects of the exercise of the rights on the Waitaki River system.
- 3) The Grantee shall measure and record the rate at which water is taken/discharged/diverted, at a frequency not less than every 30 minutes, to the satisfaction of the Water Resources Manager, Canterbury Regional Council, and the records supplied to the Council annually.
- 7) The Grantee shall:
  - a) take such precautionary measures which the Water Resources Manager, Canterbury Regional Council, may require to prevent damage from erosion which is likely to occur as a result of the exercise of this right; and
  - b) make such remedial repairs which the Water Resources Manager, Canterbury Regional Council, may require to remedy damage from erosion which occurs as a result of the exercise of this right.

8) The Grantee shall manage and operate spill flows in accordance with the provisions contained in

"Waitaki Power Development, Appendix A, Extracts of Waitaki Operating Rules, 9 November 1990" (attached).

9) The Grantee shall give at least 24 hours prior warning to the Water Resources Manager, Canterbury Regional Council, and to the Field Centre Manager - Twizel, Department of Conservation, of the

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ISSUED AT CHRISTCHURCH ON 5 AUGUST 1999



Belinda Donaldson  
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