

BEFORE THE CANTERBURY REGIONAL COUNCIL

Under the Resource Management Act 1991

and

In the matter of resource consent applications by various parties to take and use water in the Upper Waitaki Catchment

**DUNSTAN PEAKS STATION: CLARIFICATION BY HAIDEE MCCABE
OF REVISED IRRIGATION LAYOUT**

DUNSTAN PEAKS STATION – CONSENT CLARIFICATION

1. With Cathy Begley's departure from GHD, Dunstan Peaks Station Ltd have subsequently engaged me, now of Irricon Resource Solutions to review hearing evidence specific to their application and complete consent conditions.
2. On doing so, a number of errors have been identified in the evidence presented by Ms Begley and practical operational issues associated with the irrigation proposal to be consented. Furthermore there is concern with some important matters identified by the Investigating Officer, that these have not been adequately addressed by Begley on behalf of the applicant.
3. Jonathon Simpson of PGG Wrightson Irrigation and Pumping and myself, have since re-visited the property and worked through with the Paterson's, to determine a sensible irrigation plan for the properties. Considerable time and effort has gone into this plan whilst trying to take into account farming objectives, water supply, irrigation systems and consenting matters!
4. This review plus the extent and complexity of the consent issues identified, have lead Dunstan Peaks to recognize that long term, border dyke irrigation is not viable for the property and that a change to a suitable and affordable spray irrigation system is essential.
5. To make this change will mean some of the areas currently irrigated, will not be irrigated in the future as water will be relocated to areas more suitable for pivot and spray irrigation e.g. the wild flood hill site. A summary table of the changes is attached to show clearly, that there is no increase in area proposed to be irrigated and no increase in seasonal volume notified.
6. I consider it is necessary to make changes to the consents being applied for now, so the consents issued can accommodate the current border dyke system in the interim, as well as the spray irrigation system proposed to be converted to over a period of time.
7. In relation to the evidence presented by Ms Begley and the S42A report presented by Yvette Rodrigo a number of matters have arisen which have also lead to a change to spray irrigation as part of this consenting process. However, the system is expensive and will take time to be implemented in full. Dunstan requests a timeframe of 5-10 years to complete the development given the complexity and extent of the conversion.

Limiting Seasonal Volume

8. The seasonal volumes notified for these consents, is based 600mm/season/hectare. This is suitable for spray irrigation but not border dyke irrigation, where the general accepted requirements are in the order of 1200-1500mm/season/hectare.
9. When the 600mm/season/hectare was proposed as an annual volume in the applicants S92 response on the 13th December 2006, this was on the understanding that the border dykes were being replaced to spray irrigation. Since then there has been some confusion over this, with two of the Paterson's responsible for the consenting of the property, passing away

during this process and various consultants handling the applications. It is a complex irrigation system with numerous intakes and discharges, that must be fully understood to ensure a practical system is consented.

10. The S92 response identified that the volumes provided were only for irrigation purposes but this is not identified in the notification or through evidence. Stock and domestic water volumes have been identified in some instances but not others. However the S92 is clear that these volumes are for the irrigation only and does not provide for stock, domestic and race loses which are in addition.
11. The irrigation seasonal volume is extremely restrictive for the border dyke system. For example the Twin Burn: Little Omarama border dyke system of 30ha, based on the seasonal volume will only provide 6 irrigations based on the volume notified without accounting for race loses. Furthermore the Twin Burn: Omarama Stream border dyke system of 115ha, based on the volume notified will only provide 2 irrigations per season without accounting for race loses. From a practical and operational basis, this is not a viable boarder dyke irrigation system

Irrigation Areas Incorrect:

12. On reviewing the evidence and irrigation areas presented in evidence, it has become apparent that the irrigation areas shown are less than the area notified. Some areas nearly match but with others there is quite a discrepancy as follows:

Location	Notified Area (Ha)	Area shown in Evidence (Ha)
Twin Burn – Little Omarama	30	28
Twin Burn – Omarama	115	77
Dunstan Peaks – Omarama Stream & Middle Gully	170	60
Dunstan Peaks – Twaddles Creek	15	9.5
Clifton Downs – Twaddles Creek	12	8

13. The area required is that notified, and what is now justified and consistent with the spray irrigation plans.

Consent Clarification:

14. Through the hearing process it has been identified by the IO that a clear description of the activities at the sites and consenting requirements for each application is still required. Furthermore a number of consents are missing for certain activities, e.g. discharges, land use and augmentation race consents, which have been identified that these are still required.
15. Historically an augmentation race has been consented, which is used to assist with maintaining Omarama Stream minimum flows by diverting water through to Twaddles Creek rather than leaving it in the Omarama Stream to disappear underground. It is also understood to also be important to the lower stream fishery.

16. This augmentation consent was not notified but is an essential part of the Omarama Stream system as detailed in Begley evidence and S42A reports. The existing consent ECan status is continuation until new application determined.
17. With a conversion to spray irrigation the micro-hydro power scheme effectively becomes redundant as there are no races or bywash water from border dykes to provide the high flow water for such a system.
18. The IO has also sought clarification on whether stock and domestic water consents which were notified, whether these are still required. Also clarification on whether or not the applicant is going to convert to spray in the future.
19. We therefore consider it is important clarify exactly what consents are required to maintain the existing border dyke system and augmentation race, so they are consented as part of this process. Furthermore that the consents for the conversion to spray irrigation are also clearly identified and obtained as part of this process. As part of this process will GPS activity locations so we can confirm 8 digit map references that have been missing from evidence.

Water Quality:

20. The IO has identified concerns with effects on surface water quality and that the applicant has not proposed measures to address water quality impacts. Furthermore given the high level of uncertainty about the potential adverse effects and given the scale of the activity and consequences of those adverse effects, suggest that the applications should not be granted.
21. The IO considered the ANZECC Guidelines for Omarama Stream are already exceeded by the current water quality. Our investigations of the ANZECC guidelines and whether Omarama Stream is being exceeded is: DIN (Dissolved Inorganic N) is not exceeded but the NRRP recommended levels are. DRP (Dissolved Reactive Phosphorus) levels exceed both ANZECC and NRRP levels.
22. With the applicant's proposal to convert to spray irrigation we consider the applicant can now address localized water quality effects which should assist with improving water quality levels. The spray system will apply water efficiently without all the current run-off and discharge of by-wash water that is effectively picked up by the augmentation race and discharged into Clifton Drain Swamp. The augmentation race with the conversion to spray will effectively be clean water (not from by-wash).
23. Spray irrigation will be established with buffers from waterways and will not irrigate over waterways.
24. The conversion to spray irrigation has been modeled through Overseer and will enable Dunstan to comfortably come within the property thresholds. The P output reduces from 617 kg/yr to 182 kg/yr and N output reduces from 19,146 kg/yr to 18,907 kg/yr, which should assist with improving DIN and DRP levels in Omarama Stream and the Clifton Drain Swamp (prior to the sampling location). The continued monitoring at Tara Hills and the applicant's monitoring as set out in the the FEMP will verify this.
25. The resulting change from border dyke irrigation to spray should effectively improve the current localized stream water quality.

Conclusion:

26. The changes proposed are to enable an efficient and effective spray irrigation system long term, as well as correctly consenting the current border dyke system in the meantime.
27. The changes proposed to spray irrigation mean efficiency and water quality matters raised for this application are addressed. Furthermore clarification is provided on the consents actually required given this has always been an area of contention.
28. The changes proposed are considered to benefit Dunstan Peaks and the environment – and can be supported both at a practical level and from an environmental level to ensure ongoing irrigation efficiency on the property.
29. I am available to address any issues raised by the Investigating Officers or the Commissioners in relation to this memorandum

DUSTAN PEAKS: SUMMARY TABLE OF IRRIGATION

	Consent Area (ha)	Consent Flowrate (l/s)	Consent Volume (m3)	Proposed Area (ha)	Proposed Take Flowrate (l/s)	Proposed Volume (m3)	Relocate
Twin Burn – Little Omarama	30	170	180,000	30	60 l/s from Little Omarama	519,000 from Little Omarama	
Twin Burn – Omarama	115	350	690,000	56.5			Remaining irrigation area (58.5ha) relocated to Clifton Downs
Dunstan Peaks – Omarama Stream	170	290	1,020,000	0	35	300,000	Remaining irrigation area (120ha) relocated to Clifton Downs
Dunstan Peaks – Middle Gully		150		50			
Dunstan Peaks – Twaddles Creek	15	100	90,000	24	17	144,000	Effectively 9ha from Clifton Downs – Twaddles/Aug and remaining 3ha remain at Clifton Downs but supplied from main Omarama Stream intake
Clifton Downs – Twaddles/Augmentation Race	12	45	72,000	0			As above
Clifton Downs – Omarama Stream				181.5	125	1,089,000	
TOTAL	342	1,105	2,052,000	342	237	2,052,000	