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Minute 2 response

To: Independent Hearing Commissioner Rob van Voorthuysen for RM20.079

From: Charles Horrell, Consultant Planner

Date: 10 May 2021

Re: Minute 2 response for RM20.079 Bendigo Station Limited

Questions 1 - 2: "I am unsure if the supplementary minimum flows set out on page 27 of the s42A Report are correct. Under Method 15.8.1A.1 of the Regional Plan Water: Otago (RPW:O) supplementary allocation blocks of 100 L/s are available because the MALF is assessed at 33 L/s. As you note on page 27 of the s42A Report, under Method 15.8.1A.2(b) of the RPW:O the minimum flow for the first supplementary."

1. Would the minimum flow for the first supplementary allocation block be $50 + 100 = 150$ L/s?
2. Would the minimum flow for the second supplementary allocation block be $50 + 100 + 100 = 250$ L/s?

The volume recommended had been calculated on the basis that supplementary blocks should only be added to the calculation where they already exist. As there are currently no other supplementary allocation users in the Bendigo Catchment, the first block minimum flow was calculated as being equal to the primary allocation limit. On further consideration, and through discussions with Council's Senior Policy Advisor, the intent of the method is to include the first block in the calculation to ensure that there is a 50/50 split, e.g. 100 L/s allocated, 100 L/s remains in the river. The minimum flow under Method 15.8.1A.2 of the RPW should therefore be 150 L/s for supplementary allocation block 1 and 250 L/s for supplementary allocation block 2. I have indicated this change in the amended consent document attached (additions italicised, deletions struck through).

I note that Rule 12.1.4.7(iii)(b) and Policy 6.4.10 of the RPW enables for 'further' supplementary to be taken where the minimum flow is equal to the natural mean flow. As indicated in Section 5.2.1 of the s42A report, the natural mean flow is assessed as being 120 L/s. The Applicant could seek this flow as an alternative to a minimum flow as set by Method 15.8.1A.2. This being the case, I would recommend that the supplementary minimum flow restriction be 120 L/s. As this change would not affect the application status, which remains under Rule 12.1.4.7, and this is provided for by Policy 6.4.10, I consider this change is within the scope of the application and does not prejudice any party.

I understand that through Evidence provided by the Applicant's planner, Will Nicolson (dated 3 May 2021), it has been suggested that as an alternative to using Method 15.8.1A.2, a condition simply states, "This consent must not be exercised when flows in Bendigo Creek at NZTM 2000: E1314483 N5018116 are below 50% of the natural flow". Further to this the Evidence of the Applicant's hydrologist, Christina Bright (dated 6 May 2021), provides further

assessment of the hydrology has been provided and it has been indicated that the natural mean flow is 86.3 L/s. I will provide further response to this along with any additional matters by 14 May 2021.

Questions 3 – 5: “A minimum flow is the flow below which abstractions must cease. On that basis the first supplementary take can only commence when the flow in the Bendigo Creek below the point of take is > 150 L/s (assuming the above figure in my question 1).”

3. Is a flow monitoring station required below the take point to ensure the minimum flows for the supplementary takes are not breached?

Yes, a flow monitoring station is required to monitor and ensure compliance with the minimum flow.

4. If the answer to question 3 is yes, is WM1515, located approximately 750 m below the point of take appropriate for that purpose?

Yes, the existing flow monitoring station¹ located approximately 750 m below the point of take is appropriate for this purpose.

5. If the answer to question 4 is no, is that what recommended Condition 6 of RM20.079.02 is for?

Recommended Condition 4 is to require the flow monitoring station which could include the existing flow monitoring station. As this is not clear in the current condition, I have proposed changes to this condition to remove references to ‘install’. These changes are shown in the amended draft consent document attached to this response.

Questions 6 – 7: “As you note in section 7.5 of the s42A Report, the Building Act 2004 is the primary legislation regulating the construction and management of dams.”

6. Is it appropriate to impose dam safety conditions (recommended Conditions 5, 6 and 7 of RM20.079.03) on a s14(3) damming of water permit?
7. Is imposing dam safety conditions on s14(3) damming of water permits standard practice in the Otago region?

To provide a response to the above questions, it may assist to provide context to dam safety conditions generally.

As noted, the Building Act regulates the construction and management of dams in which the Regional Council is responsible for. The Building Act requires that “Large Dams” demonstrate compliance with the building code at the time building consent is sought. Further, all structures must be built and maintained in compliance with the building code under Section 19. The Building Act also provides for enforcement and prosecution of dam owners where there is evidence that the dam is not compliant with the building code. This however, is reactive in that action can only be taken once there is obvious evidence the dam is non-compliant with the building code which is typically after a failure, or immediately prior to imminent dam failure. There is no mechanism under the building act to continually monitor and regulate the safe operation and integrity of the dam². This has been acknowledged by Central Government and dam safety regulations have been proposed at on three occasions, most recently with the proposed 2019 version³. It is expected that these regulations will be introduced and implemented within the next 2 years⁴. However, in the interim there remains a gap. While

¹ Although not WM1515 which is associated with the water meter

² Albeit there is reference to dam safety regulations, however, those regulation are yet to be introduced

³ <https://www.mbie.govt.nz/dmsdocument/5731-proposed-regulatory-framework-for-dam-safety>

⁴ Based on cabinet briefing paper to Minister Poto Williams dated 24 February 2021

failure of a dam poses a low risk, there is potential for significant consequence, particularly where there are land use changes and further development immediately downstream of the dam during the consent term.

In the absence of dam safety regulations under the Building Act, dam safety conditions as they relate to environmental effects may be applied to resource consents. This has been standard practice at various regional councils, based on my past experience working for ORC and specifically in the role of processing building act applications for 'large dams' and maintaining the building consent authority accreditation.

In response Question 6, in my opinion, I consider that it is appropriate to apply dam safety conditions to a water permit to dam water. I consider that this is intra vires as it relates to the safe containment of water which I would consider to be an aspect of damming. The environmental effect associated with this is the hazard of a potential uncontrolled release of water including flooding and erosion from a dam break. As the activity status is discretionary, the Council are not precluded from considering this potential effect.

With regard to Question 7, applying dam safety conditions to water permits to dam water is standard practice in Otago, and in a number of other regions, as noted above. Generally, conditions as recommended are applied to dams of a certain scale that have an assessed 'low' Potential Impact Classification ("PIC"). Additional monitoring and reporting conditions are often required for any dam with a medium or high PIC that reflects its risk and potential consequence.

Questions 8 – 10: "Bendigo has sought supplementary allocation(s)."

8. Are the supplementary allocations subject to monthly and seasonal volume restrictions?

Yes, monthly and seasonal volume restrictions are subject to the supplementary abstraction as set out in Condition 4 of RM20.079.02.

9. If the answer to question 8 is yes, which provisions of the RPW:O impose those restrictions?

The volumes set ensure that water use is no more than what is required for its intended use in accordance with Policy 6.4.0A of the RPW. As the applications are considered as a bundled discretionary activity, this may be considered in the decisions, although this would also be provided through restricted matter (iii) of Rule 12.1.4.8.

10. Can you please explain the derivation of the reference to 430.6 litres per second in recommended Condition 3(c) of RM20.079.02?

This is a typographical error and reflected the previous calculation for the supplementary minimum flow based on a previous reported primary allocation for Bendigo Creek which has since been verified as inaccurate. The correct flow should have been 150 L/s, however, based on my response to Questions 1 and 2 should either be 120 L/s or 250 L/s. This has been corrected in the attached updated draft consent (assuming supplementary block).

Questions 11 – 13: "Water meters"

11. Is the water meter referred to in recommended Condition 6 of RM20.079.01 existing meter WM1515?

Yes, Condition 6 can refer to the existing water meter as this meter meets its criteria. I acknowledge that this may not be clear in the existing condition with the reference to "install"

and therefore recommend that references to “install” are removed. I have indicated these changes in the attached amended consent document.

12. Do recommended Condition 6 of RM20.079.01 and Condition 7 of RM20.079.02 refer to the same meter?

Yes. As with the above, I have recommended changes to Condition 7 to acknowledge the existing meter by removing references to “install”. This is indicated in the attached amended consent.

13. Is data obtained by WM1515 telemetered to ORC?

Yes, WM1515 is currently telemetered.

Questions 14 – 23 “other matters”

14. Recommended Condition 1 of RM20.079.02 refers to x hectares. What should x be?

182.4 hectares. This has been included in the attached amended consent.

15. Is recommended Condition 2 of RM20.079.02 appropriate, namely is conceivable that Bendigo could exercise supplementary takes at times of high flow while not abstracting primary allocation water?

This condition is to recognise the relationship of abstracting with the primary water permit and it is anticipated that both permits will be exercised together. However, I agree that the supplementary water permit could be exercised separately from the primary permit and the current condition as recommended could preclude this. On further consideration, I recommend that this condition modified to remove the obligatory requirement and to be an advice note rather than an enforceable condition. Recommended changes are indicated in the consent attached.

16. Is recommended Condition 4 of RM20.079.01 vires given that the s42A Report confirms (page 22) that the overflow discharge from Bendigo Pond is a permitted activity under RPW:O Rule 12.C.1.1?

In my opinion, yes. Condition 4 is intra vires as it relates to the use of water from both takes. The efficient use of water is an effect that can be considered as required by Policy 6.4.0A (among others in higher order documents). To ensure that this is a recognised ‘use’ under the consent, I have recommended that it is added to the purpose as shown in the attached consent.

Further to this, in its decision on Marlborough District Council v Zindia [2019] NZHC 2765, the High Court has confirmed the established position that permitted aspects of a development proposal must be considered and assessed as part of resource consent applications (at least from a cumulative effect and holistic perspective). I consider it appropriate in this case to consider the associated discharge in that regard, however assert that the requirement to cease the discharge is associated with being an inefficient use of water rather than managing the direct adverse effects of the discharge to the waterbody.

I understand that the Applicant has provided further details on the necessity of the existing overflow and evidence that the overflow is an efficient use of water. I will provide further response to this prior to 14 May 2021.

17. Why does recommended Condition 2 of RM20.079.03 refer to taking and using water when the purpose of RM20.079.03 relates solely to “dam water within a reservoir”.

The applications seek to authorise the take and use of water from the reservoir as well as Bendigo Creek. This condition is to ensure that no more than what is stored in the reservoir is abstracted. As this is provided under the volumes and purpose of RM20.079.01 and RM20.079.02, this condition is not required on RM20.079.03. I have recommended that this condition is removed as indicated in the attached amended consent.

18. What objective criteria would the consent holder use to determine if the dam is or has become dangerous (recommended Condition 4 of RM20.079.03)?

*A **dangerous dam** is defined in the Building Act as being⁵:
“A dam is dangerous for the purposes of this Act if the dam—
(a) is a high potential impact dam or a medium potential impact dam; and
(b) is likely to fail—
(i) in the ordinary course of events; or
(ii) in a moderate earthquake (as defined in the regulations); or
(iii) in a moderate flood (as defined in the regulations).”
It is noted that the regulations referred to are now revoked⁶.*

The objective criteria for identifying if a dam is dangerous by clause (a) is through the regular PIC assessment requirements of recommended Condition 5 (now 4 of the attached amended consent RM20.079.03). Objective criteria for clause (b) would be either identified through the PIC review, or based on observed visual cues that the dam’s integrity has been compromised such as obvious signs of internal erosion through slumping of the embankment or seepage.

Regardless of the above, I acknowledge that this is already a requirement of the dam owner in accordance with Section 153B of the Building Act 2004. I therefore recommend that this condition is altered to reference the Section of the Building Act and to rather be an advice note. This is shown in the amended consent document attached.

19. What objective criteria would the consent holder use to ensure compliance with the subjective terms in recommended Condition 6 of RM20.079.03, namely that the dam, spillway and associated structures do not pose an undue risk to human life, property, or the natural environment, and are able to perform satisfactorily to their approved design standard?

This condition has been used as a ‘standard’ condition by the Otago Regional Council for ensuring that uncontrolled releases from the dam due to a failure or otherwise is avoided. Objective criteria as with the response to Question 18 would be through obvious visual signs (or post failure) or through a review of the dams PIC. As with my response to Question 18, I consider that this is already provided under the Building Act, specifically Section 19. I recommend that this condition is rather altered to be an advice note in the attached amended consent RM20.079.03.

20. What is the “approved design standard” referred to in recommended Condition 6 of RM20.079.03?

The design standard is the New Zealand Dam Safety Guidelines 2015. As noted above, as this is a requirement under the Building Act, I have altered this to be an advice note.

⁵ Section 153 of the Building Act 2004

⁶ Building (Dam Safety) Regulations 2008

21. What “associated structures” are referred to in recommended Condition 6 of RM20.079.03?

Associated structures include pipes, valves and other infrastructure that is associated with the safe operation of the dam. This term has been used to avoid an exhaustive list and to account for structures that may not be immediately apparent. I acknowledge that ‘associated’ may be unclear and recommend that this reference is altered to ‘appurtenant structures’ which is defined under the Building Act as being “in relation to a dam, means a structure that is integral to the safe functioning of the dam as a structure for retaining water or other fluid”. This change is shown in the attached amended consent RM20.079.03.

22. Recommended Condition 7 of RM20.079.03 states “The damming of water must not cause flooding, erosion, land instability, sedimentation, or property damage of any other person’s property”. Precisely what property is being referred to?

The condition does not relate to a specific property, nor should it specify a specific property. This would relate to any property that may be affected by the damming of water. Currently there is very low risk for these effects to occur to any other persons property due to the Applicant owning surrounding land, however, this could change in the future. This condition is a ‘standard’ condition for damming consents to account for the present and potential future effects of the dam. While there is very low risk of change in land use and ownership directly downstream of this dam, I consider that this condition remains relevant and ensures consistency with ORC’s standard procedure.

23. Is Condition 7 of RM20.079.03 targeted at the normal operation of Bendigo Pond or at a possible failure of the embankment impounding water in the Pond?

Condition 7 is targeted at both normal and possible failure. The operation of the spillway associated with the dam poses a risk for the effects identified in Condition 7. There is also potential for such effects in the event of an uncontrolled release from the dam.



Charles Horrell

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