BEFORE AN EXPERT PANEL **FTAA-2025-1069**
WAITAHA HYDRO SCHEME

Under the	**FAST-TRACK APPROVALS ACT 2024**
In the matter of	an application for approvals in relation to the Waitaha Hydro Scheme
Between	**WESTPOWER LIMITED**
	Applicant

EXPERT PANEL: WESTPOWER LTD MEMORANDUM #6 MEMORANDUM OF COUNSEL RESPONDING TO RFI #2 DATED 12 DECEMBER 2025

Dated: 16 January 2026

BUDDLE FINDLAY
Barristers and Solicitors

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MAY IT PLEASE THE PANEL:

1. This memorandum is filed on behalf of the Applicant, Westpower Limited **(Westpower)** in response to the Panel's second Request for Further Information dated 12 December 2025 **(RFI #2)**.

2. Westpower's experts have provided information where relevant, as stated below.

Questions 1 to 4: Hydraulic Engineering, stability and absence of a surge chamber, groundwater inflow to the tunnel and ramping rates

3. AusHydro, authors of Appendix 31: Downstream Flow Modelling Report,[1] have provided two memorandums to support the answers to questions 1 to 4, attached as **Attachment A and B**.[2] These attachments provide additional details to the summarised responses below.

Question 1: The Panel seeks details of the hydraulic analysis undertaken for the structures proposed at the river intake.

4. Hydraulic analyses used in the preliminary design were generally based on one-dimensional flow analysis and formulae/designs from recognised engineering practice. Flow patterns within the river were investigated using two-dimensional computational hydraulic modelling. The outputs of flow modelling are described in more detail in **Attachment A** Memo – WTA Hydraulic design and operating conditions.

5. In detailed design stages, it is intended to utilise three-dimensional computation flow dynamic (CFD) modelling of flow and sediment transport to define the final arrangement/shaping of the headworks in particular.

6. The hydraulic design and operating conditions of the headworks and intake components are described further in **Attachment A**.

[1] Appendix-31-downstream-flow-modelling-report.pdf.
[2] Attachment A: WTA Hydraulic Design and Operating Conditions, 9 January 2026 and Attachment B: Residual Flow in Abnormal Operating Conditions, 9 January 2026.

Question 2: The proposed scheme does not include a surge facility on the headrace conduit. While inclusion of a bypass valve is noted, please advise what consideration has been given to:

a) governing stability, especially if the station is periodically required to operate in an islanded grid;

7. The Project design with a relatively large waterway tunnel (being the minimum size for efficient construction) results in relatively slow waterway velocities, benefiting governing stability of the turbines and generators.

8. The Hadley ratio determines the stability of the unit and its transient behaviour during startup and load changes. The current design has a waterway startup time (Tw) of 2.6 seconds. Based on empirical scaling relationships, mechanical startup (Tm) is estimated to be 9.2 seconds, giving a Hadley ratio (Tm/Tw) of 3.6 for single unit operation, and 7.1 with two units operating.

9. This is deemed sufficient by Westpower to support largest contingent loads on the network. For normal operation, stable governing requirements are met (conservative 'rule-of-thumb' design guidelines, e.g. Brekke (2001) Hydraulic Turbines: Design, Erection and Operation, suggest a minimum Tm/Tw ratio of 3.5).

b) transient pressure management during normal, unusual and catastrophic load cases.

10. Transient modelling for the preliminary design is based on the rigid water column (RWC) model consistent with IEC TS 63111 which is consistent with good electrical industry practice for this stage of design.

11. Modelled RWC surge pressures are:

    - Estimated max operating pressure (at MIV) is 1.42 times rated net head (HGL 273.1 m).
    - In emergency conditions (i.e. rapid wicket gate closure) pressures of up to 2.0 x net head may occur (~200 m head).
    - The proposed GRP penstock (PN25 – PN32) is rated for this pressure range.

- In emergency cases, the minimum grade line is more than 10 m above the entire waterway soffit, so there are no negative pressures based on RWC modelling.

12. Detailed transient modelling is planned for detailed design phases using Simsen in accordance with IEC TS 63111.

13. This will help assess the electrical / hydraulic transients, machine characteristics, requirements for additional inertia (flywheels), grid support and islanded operation, and confirm transient pressures and factors of safety.

Question 3: A cumulative groundwater inflow rate of up to 200 l/s is noted in the reports. Please advise:

a) How was this value estimated?

14. This value was an estimate based on local experience of tunnelling in similar geology at the Amethyst Hydro Scheme site located 8.5 km southwest of the proposed Waitaha intake.

b) Is the value for both tunnels?

15. This value is for a single tunnel, but the tunnels are closely spaced and excavated within the same geological units so will generally intercept the same groundwater field (although during operation the water tunnel will be pressurised and lined reducing inflow into it as set out below). During construction the combined groundwater inflow will be less than would be expected for two independent tunnels.

c) What testing is proposed within boreholes to confirm initial estimates of inflows?

16. Thirteen boreholes are planned at seven locations[3] to allow characterisation of the rock mass quality and defects and their variability along the tunnel length, and major structures along the length of the tunnel, all of which will affect groundwater inflows. Specific permeability (packer) testing is allowed for in each hole at and near tunnel elevation and to target geological features/structures encountered.

[3] As shown in Figure 17, section 3.5.1 of the Application: Waitaha-Hydro-project-substantive-application-documents.pdf .

d) Is this expected during construction and during operation (i.e., will both tunnels be allowed to continue to drain groundwater during operations?)

17. Only the access tunnel is expected to continue to drain groundwater during operation. The waterway tunnel will be pressurised and lined and so is not expected to drain groundwater. We note:

    - inflows are expected to be higher during initial construction when perched groundwater is intercepted, and significantly lower in the long-term.

    - areas of high inflow will be treated (grouted) to reduce long-term inflows.

e) Have the associated effects of allowing groundwater drainage been assessed?

18. During tunnel construction, clean water will be diverted away from construction areas where practicable. All groundwater that is contaminated by grouting or other tunnelling processes will be treated as per the Construction Environmental Management Plan, and more particularly, as per Section 4.6 of the Erosion and Sediment Control Plan.[4]

19. Appendix 51 of the Substantive application notes[5] that:

> "The proposal will involve diversion of some groundwater through the Scheme's tunnels, however, there are no existing uses affected by this."

20. Any adverse effects are also inherently mitigated by the following factors:

    - very high rainfall in the area providing a significant supply of groundwater aquifer recharge; and

    - relatively large tunnel depths (below ground) that act to dampen any adverse impacts propagating to the ground surface.

f) What is the anticipated quality of the groundwater, and will it require treatment (noting that construction water is recognized as requiring at least pH adjustment)?

[4] Appendix-34-erosion-and-sediment-control-plan.pdf.
[5] Appendix-51-statutory-assessment-regional-and-district-plans.pdf, pg 47.

21. pH treatment of construction inflows of groundwater is associated with the potential for contact with construction materials (cementitious material in fresh grout/shotcrete).

22. Long-term inflows are anticipated to be clean water without requirement for treatment. This reflects Westpower's experience at Amethyst Hydro, where the groundwater from the tunnel is clean and is discharged directly to a stream. Notwithstanding, Westpower proposes the following additional requirements to be included in Part C9 of the conditions (Main Hydro Scheme Consents) included below.

23. Any groundwater diverted into the access tunnel and subsequently discharged to the Waitaha River must comply with the following quality standards:

    - Clarity of no less than 100mm; and
    - pH of between 6.7 and 8.2.

Question 4: The Panel requires more information about ramping rates.

a) Whether Francis turbines have difficulty operating below 40% of design flow?

24. Francis turbines are typically not operated below approximately 40% of their design flow, and it is not the intention to normally operate them in this range. However, this is an efficiency (and asset management) decision; the turbines can be safely operated below that level if required, while accepting some risk of increased wear if operated for long periods of time in this zone. In fact, if the Station is required to run isolated to supply local load in South Westland, it will be expected to run in this zone for as long as required. Westpower, prior to its divestment to Manawa Energy, successfully applied this operating strategy with the 3.5 MW Francis turbine at the nearby Wahapo Power Station over many years.

b) If so, how these potential operational constraints been factored into the proposed ramping rate regime?

25. There will inevitably be a step change in the turbine flow ramping rate when the station transitions from being offline to generating (or vice-versa), with

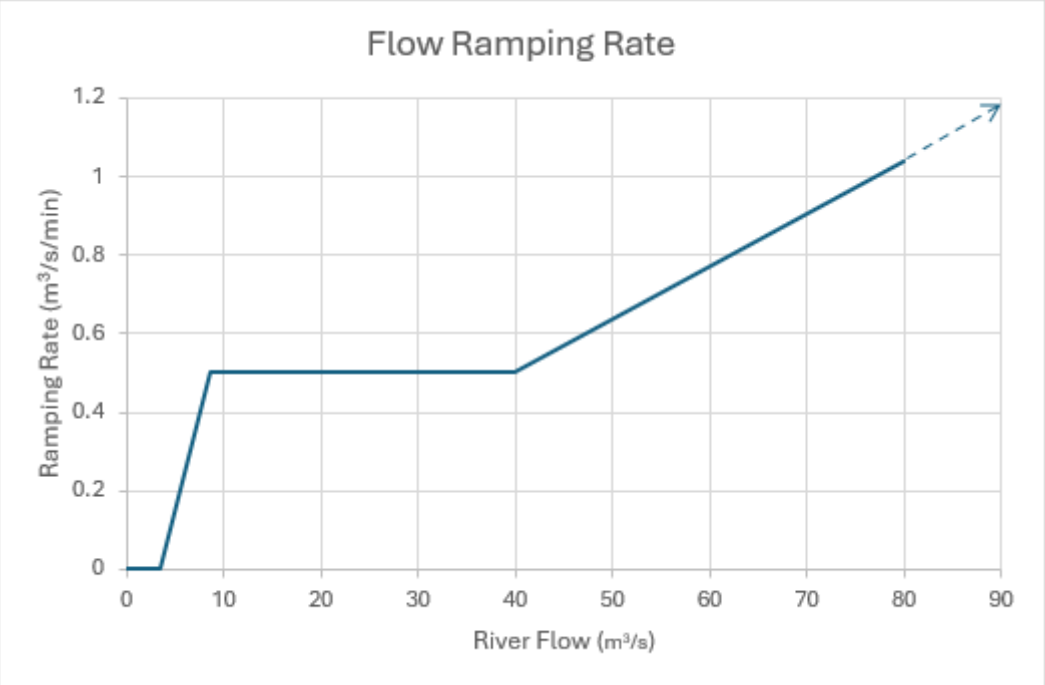
minimum generation flow being approximately 4.5 m³/s (assuming two identical Francis units of about 11.5MW each).

26. As described in the Downstream Flow Modelling Report:[6] "in reality the flow rate change will be stepped, as a unit is brought up to synchronous speed-no-load (around 10% unit flow) and then quickly ramped up into its normal operating range (around 40% unit flow) before increasing with a controlled ramp rate."

27. As described in Table 2 of the Public River Safety Report[7] when referring to low flow scenarios relevant to the question: "The bypass valve can be used to fully control this change, allowing a more rapid startup or shutdown of generation within or after this period."

28. It is intended that the bypass valve will be operated in conjunction with station startup/shutdown to maintain river ramp rates within +/-0.5 m³/s per minute. Flow changes from startup/shutdown of the second unit can be smoothed by compensatory flow changes through the first unit.

29. To aid the panel, Mr Griffiths has illustrated the proposed maximum controlled ramp rates by river flow in the below graph:[8]



[6] Appendix-31-downstream-flow-modelling-report.pdf, Section 3.1, pg 7
[7] Appendix-32-public-river-safety-report.pdf.
[8] Appendix-3-project-overview-report-part1.pdf, pg 22.

c) *Provide design details for the proposed bypass valve, and further information on its utilisation under operating conditions.*

30. A hooded fixed cone bypass valve is presently being considered, fed from a branch off the penstock and mounted at the end wall of the tailbay. The valve would discharge water in an aerial plume across the tailrace and adjacent river, as depicted in Drawing WP-WTH-C-030 of the Conceptual Scheme Design Drawings.[9] The valve has a discharge capacity of 10 m³/s.

31. The valve will be actuated by hydraulic rams and connected to the scheme SCADA control system, allowing rapid and accurate control of flow discharge.

32. The bypass valve (BPV) is envisaged to be used:

- in the event of station trip, it will be rapidly opened to maintain scheme discharge of 10 m³/s (or initial station discharge if less) into the river immediately downstream of the power station. The valve will continue to discharge until the rejected station flow 'catches up' to the river downstream via Morgan Gorge discharge, then valve discharge will slowly be ramped down over at least 20 minutes;[10]

- when the station is to be started up from zero output, the BPV will initially be opened up (over 10 mins) to around 5 m³/s discharge, then reduced in flow to mirror flow increase through the turbine;[11]

- when station generation is being shut off, the BPV will be opened up to compensate for the flow being stopped through the turbine, then reduced over approximately 10 minutes (or more) to respect flow ramp rate constraints;[12] and

- on kayak "no-take" days, the BPV may be used to reduce flow into Morgan Gorge if requested by whitewater kayakers and if considered safe to do so. Changes to BPV discharge would respect flow ramp rate constraints.[13]

[9] Appendix 42 Conceptual Scheme Design Drawings.pdf., pg 3, and valve depiction at pg 14.
[10] Appendix-31-downstream-flow-modelling-report.pdf, pg 11; Appendix-32-public-river-safety-report.pdf, para 6.5;
[11] Appendix-31-downstream-flow-modelling-report.pdf, pg 11; Appendix-32-public-river-safety-report.pdf, para 6.2, and Appendix 3 project overview report part1, [9.23], pg 68.
[12] As above.
[13] Appendix 3 project overview report part1, [9.23], pg 46.

d) *Please provide more detail about the on residual flow regime during abnormal scheme operating conditions i. station shutdown and startup (e.g. before and after routine maintenance);*

ii. the flood scenario where Waitaha River flows exceed 250 m3/s;

iii. days where agreed flows are provided for kayakers; and

iv. instances where the Power Station trips (i.e. disconnect).

33. The water release into Morgan Gorge during abnormal operating conditions is described in Table 8 (Waitaha Hydro Scheme Abnormal Operating Regime) of the Application.[14]

34. AusHydro has provided **Attachment B** Memo – Residual Flow (abnormal operating) which responds in more detail to Question 4(d).

35. Modelled time-history plots of flow entering the gorge at various river conditions for the abnormal operation cases are provided in **Attachment B**.[15] Changes in flow rate are effected at the station, and there will be a slight (up to 1 minute or so) lag to flow changes at the headworks. This means that, in reality, flow changes at the headworks will be more gradual/smoothed than shown in Figures 1 - 5 in **Attachment B**.

36. In all cases residual flow will remain at 3.5 m³/s or greater.

Question 5: Spoil disposal

Please advise whether the spoil material has been assessed for the potential to generate contaminated groundwater seepage when exposed to rainwater and the atmosphere in the spoil disposal area?

37. No. Spoil material will be tested for contaminants during the geotechnical investigation. Disposal of spoil will be managed in accordance with Appendix 34: Erosion and Sediment Control Plan.[16]

38. Westpower is also proposing the following condition as part of any spoil discharge to land consent granted (i.e. to be included in Part C8 of the proposed resource consent conditions "Section 15 - Discharge Permit: Discharge of Spoil Material to Land (Construction Phase)").

[14] Waitaha-Hydro-project-substantive-application-documents.pdf, page 96.
[15] Attachment B: Memo - Residual Flow in Abnormal Operating Conditions, 9 January 2026.
[16] Appendix-34-erosion-and-sediment-control-plan.pdf

(7) *All rock cuttings and excess fill discharged to land in accordance with this consent must comply with the definition for 'cleanfill material' in the Operative Regional Land and Water Plan.*

Question 6: Intake construction – temporary gravel bund

Please advise:

a) *Whether the likely permeability of the temporary gravel bund been assessed and the anticipated seepage rates to the construction site been* estimated?

38. The riverbed comprises glacial outwash, fine sands and larger highly permeable material (i.e. gravels, boulders, etc.). Graded or ungraded river gravels form the intake channel excavation would be formed into rockfill bunds. Leakage would be controlled with impermeable liner (e.g HDPE, LLDPE, or other) and allowed to drain or be pumped back to Morgan Gorge. The liner would be installed on cofferdam batters and covered by additional material for ballast. The team anticipates frequent maintenance of the bund during construction, especially for the Phase 1 (right abutment).[17]

39. Site constraints (high frequency seasonal flood events that will inundate construction areas) necessitate that construction will be undertaken during seasonal low rainfall periods and using accurate weather forecasting, as demonstrated during the construction of Amethyst Hydro.

b) How will seepage to the site be managed?

40. Specific and detailed Project constructability and construction methodologies will be progressed in the reference design stage, supported by information from geotechnical site investigations. Final work methodologies will be documented in a Construction and Environmental Management Plan as per the substantive application.[18]

c) How will the temporary bund stability be maintained through the head of the Gorge to allow the construction of the training wall and weir right abutment?

41. As per paragraph 40 above, Project constructability will be progressed in the reference design stage. Should the approvals be granted a series of constructability, safety-in-design and value engineering workshops are

[17] Appendix-3-project-overview-report-part1.pdf, page 65
[18] Waitaha-Hydro-project-substantive-application-documents.pdf, section 3.5.4.3.

planned for 2026, with attendance from a wide range of subject matter experts (contractors, designers, tunnellers, ecologists, etc).

42. Westpower is proposing the following conditions of consent relating to the management of effects associated with the intake's construction:

> *<u>Part C2: Land Use Consent: Earthworks and Vegetation Clearance (Construction Phase)</u>*
>
> *3. The Erosion and Sediment Control Plan (ESCP) required by Condition 3 of Part B of these conditions must be prepared by a suitably qualified and experienced person. The purpose of the ESCP is to ensure erosion and sediment discharges from construction work areas are appropriately minimised and managed.*
>
> *4. The ESCP must be of a similar form and content to the DRAFT ESCP provided in the Application,……..*
>
> *<u>Part C9: Main Hydro Scheme Consents (Construction and Operational Phases)</u>*
>
> *6. During temporary diversions of the Waitaha River above the Headworks, the consent holder must ensure natural fish passage at this location is maintained including the continued provision for upstream and downstream passage of kōaro and the continued exclusion of upstream salmonid passage.*
>
> 8. *Any diversion pumping activities must be undertaken using a fish screen with a mesh aperture size no greater than 3 mm (or no greater than 5 mm if combined with the pump head being submerged in a ballast-filled well pit or ballast-filled permeable vessel) must be installed and maintained on the diversion pump intake to minimise fish passing through the intake or being trapped against the screen.*
>
> 9. *Streamworks associated with the construction of structures authorised by these Consents must be undertaken in accordance with relevant requirements set out in the CEMP, ESCP and FEMP.*
>
> 10. *Any diversion pumping activities during construction or maintenance must be undertaken under supervision of an appropriately qualified and experienced ecologist.*

Question 7: Natural hazards

Granite Creek Crossing - The design indicates an area of cut slope will be required just to the south of the Granite Creek crossing.

Please advise:

a) *Whether the design of this cut slope has been assessed and the likely height/slope treatment determined?*

43. The slope of the cut immediately south of Granite Creek is 1 in 0.7 and has a height of approximately 16m (showing in Figure 1[19] below). Treatment of all slopes will be assessed by the construction manager in consultation with the DOC liaison officer and consistent with the Landscape Management Plan and the rehabilitation options.[20]

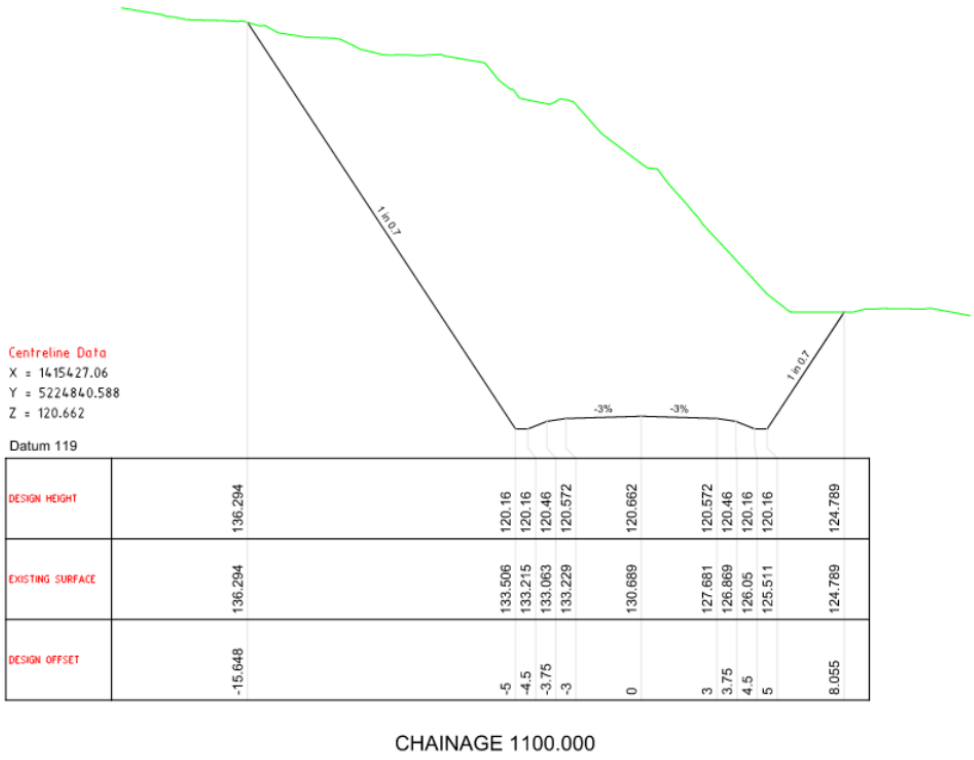


Figure 1 – Cross section at Chainage 1100.000

[19] This is not included in the Application and was supplied to Westpower by a roading design expert.
[20] Appendix 40 Landscape Management Plan.pdf, Appendix 1.

b) Whether the landscape implications have been assessed?

44. Effects of the access and transmission corridor between the Power Station and Macgregor Creek have been assessed in Appendix 27 Landscape Report at section 5.2, assessing cuts on slopes and recommending mitigations.

Downstream tunnel rockfall protection works – landscape assessment

Reference is made to downstream tunnel rockfall protection given the slope is susceptible to rock fall/failure. Please advise whether the references on p.51 of the landscape assessment refer to this downstream rockfall protection?

45. Pages 48, 49 and 51 in section 4.5 of Appendix 27 Landscape Report refer to wingwalls which serve as protection against rockfall. Section 5, pages 65 and 68 discuss mitigation objectives for those walls.

Seismic assessment

While the application mentions seismic risk it is not clear what assessment of that risk has been undertaken. Accordingly, please advise what assessment of seismic risk has been undertaken in respect of the adjacent fault line, and how this has been factored into design?

46. Seismicity is addressed in section 5 of Appendix 3 Project Overview Report. Appendix 17 Geology and Geotechnical Report discusses the Alpine and other local faults in sections 5 and 6, scheme components and local geology in section 8, and provides a high-level discussion of geological and geotechnical hazards and risks to the scheme in section 9. Section 6.21 of the Application also summarises natural hazards effects including those associated with potential seismic events.

47. Detailed design of the scheme will be informed by development of a site-specific seismic hazard assessment (SSSHA). The structural engineers for Waitaha Hydro also designed the neighbouring Amethyst Hydro scheme. They are fully aware of the existing, nearby fault line and intend to allow for this in the design process. Neither the access nor the water tunnel traverse the fault line.

Question 8: Desander

Please advise whether you are aware of similarly designed desanders having been used successfully in similar conditions for other projects, in New Zealand or other countries?

48. Underground Pressurised Desanders (UGPD) have been in development and use internationally since the 1950s. AusHydro is not aware of any UGPD being used in New Zealand, and it advises of some hydropower examples with UGPD include:

    - Super-Dordi, Nepal (54 MW) UGPD fine sediment settlement capability;
    - Upper Trishuli-1, Nepal (216 MW) UGPD 9.8 km headrace tunnel, 29.5m high dam;
    - Nathpa Jhakri, India (1500 MW) Four UGPD, 525 m long, 700,000 tons/year;
    - Tonstad, Norway (960 MW) Three UGPD, with Sedicon system 30+ km unlined tunnels;
    - Skagen, Norway (270 MW) UGPD with 3,000 m³ capacity, 960 m head, 30 km tunnels;
    - Tysso II, Norway (224 MW) Two UGPD, 15 km headrace, 735m head, 2 pelton units; and
    - Aurland II, Norway (175 MW) Multiple UGPD, addresses sediment problems in reservoir.

Questions 9 to 12: Hydrology and climate change

Question 9: Residual flow state

The Panel is particularly interested in effects during low flows in the Waitaha River. Please advise:

49. Mr Doyle, author Appendix 18: Hydrology Report[21], has responded to Questions 9 to 11.

[21] Appendix-18-hydrology-report.pdf.

a) *How the residual flow rate of 3.5 m3/s in the abstraction reach will be maintained at less than the 7-day mean annual low flow in the Waitaha River?*

50. The scheme will only operate when there is a natural flow upstream of the intake weir greater than 3.5 cumecs plus the minimal viable take for generation, thus always allowing 3.5 cumecs to continue past the weir, as measured in real time at the weir. The residual flow is maintained by adjusting the take to ensure that the remainder, the residual flow, remains at or above the 3.5 cumecs residual requirement. This is the same approach that Westpower currently employ at Amethyst Power Station. For context, the lowest flow ever measured above the intake is 5.96 cumecs, and the lowest flow estimated since 1971 is 4.76 cumecs.

51. To this effect, Westpower has proffered the following consent condition:

> *Part C9: Main Hydro Scheme Consents (Construction and Operational Phases)*
>
> *33. The consent holder must ensure that a residual flow of at least 3,500 litres per second is maintained in the Waitaha River immediately below the intake weir except during any time when natural flows at the intake are less than 3,500 litres per second, in which case, all flows at the intake must flow to Morgan Gorge and must not be used for hydro generation purposes.*

b) *When the scheme is operating, are there any circumstances (e.g. power station outages) in which the residual flow downstream of the intake could fall below 3.5 m3/s in the abstraction reach?*

52. The only way that residual flow can drop below 3.5 cumecs is if there was a programming error in the software controlling the station, some malfunction in equipment, or the residual flow measurement is incorrect. Otherwise, the scheme only operates when the natural flow is well above 3.5 cumecs (see the answer to question 4 above).

53. Flow data is transmitted to the Westpower control room via SCADA and flows below 3.5 cumecs will be alarmed.

c) Would the inflows from Anson Creek and Glamour Glen in Morgan Gorge (around 0.7 m3/s) ever need to be relied upon to maintain a residual flow in the abstraction reach?

54. No. The measure of the residual flow will be at the weir. Any water coming into the Waitaha downstream of the weir will be additional to the 3.5 cumecs residual flow.

Question 10: Climate change effects

What effects are expected during low flows?

55. Appendix C of the Hydrology Report[22] discusses climate change and the local environment. In it, it states "Autumn is considered to become drier for South Westland" in climate projections. "The weather will become more unpredictable and hold greater extremes". There are no strong signals for increased drought conditions or effects on the production of meltwater or freezing ice which would be the key sources of impact on Waitaha River flows.

56. Westpower has been advised as follows by Mr Doyle, author of the Hydrology Report. Climate change projections can only be provided in a broad sense, and the complex hydrological drivers of low flows in the West Coast alpine areas only increase this uncertainty. However, the climate change adaption toolbox provided by Earth Sciences New Zealand (formally NIWA), is prefaced with the statement *"There is considerable complexity and inherent uncertainty in climate modelling……"*, but still, there remains general agreement on broad outcomes.

57. The report also states at Appendix C "Slightly warmer winter temperatures imply that less winter snow accumulation is likely, and winter runoff may increase during low flow periods, as well as floods".

58. The Ministry for the Environment publishes regional climate change projections for a variety of parameters, these being used by territorial and regional authorities for planning. Looking out to 2040, 2060, and then the turn of the century for a variety of warming scenarios, the guidance for Westland averaged over a full year shows increased daily temperature,

[22] Appendix-18-hydrology-report.pdf.

decreasing frost days, more rainfall, more very rainy days, slightly less dry days. [23]

59. With regard to low flows however, Westland is unusual in that the lowest flows specifically occur in late autumn and winter, and looking at these seasons, the following climate advice is provided (recognising the numerous uncertainties that apply):

    - warmer days providing potential for more snowmelt in autumn, and less freezing in winter,
    - more rainfall in winter, but little change in autumn (perhaps slightly less rainfall in that time),
    - an increase in heavier rainfall, particularly in winter,
    - less dry days in winter, perhaps slightly more in autumn, depending on the climate scenario and period considered.

60. The hydrological response for Waitaha to these changes is complex with changes in rainfall, freezing and melting all at play, sometimes cancelling each other out. Winter release from snow and ice storage in the catchment may transfer to that from fractured rock. One key factor regarding the expected warming in winter temperatures implies that less winter snow accumulation will occur, creating more immediate runoff following rain, and winter flows will not usually be as low as that seen to date.

61. While the signals favour the lowest flows in each year generally becoming higher, the weather will become more unpredictable and hold greater extremes. For this reason, it is also possible that compared to the period 1970 to now, there could be individual, low probability occasions in the future when flow is lower for a short period.

[23] Climate projections summary dashboard | Ministry for the Environment; and Regional Projections: Zone 6 | Earth Sciences New Zealand | NIWA.

Question 11: Flow statistics

Outline the assumptions for, and validation of the synthetic flow data record in the Waitaha River, including uncertainties and limitations related to extending the flow record from 2012 – 2024,

What operational constrains are related to the future use of the Kiwi Flat flow recorder (or other proposed flow monitoring location)?

62. As noted in our response to questions 1 and 2 of RFI #1, flow data from the Whataroa and Hokitika rivers is used to synthesise flows on the Waitaha River with good confidence (refer section 3.5, Appendix 18[24]).

63. The locality of these two neighbouring catchments similar in geology, rainfall, elevation and aspect allows the generation of synthetic flow data from a time variable correlation from these two inputs. The output from this correlation compares extremely well against the measured data, as advised by Mr Doyle, possibly the best that he has seen. Apart from random error following individual storms, and measurement error in the neighbouring catchments, the relationship will adjust across time in sympathy with the parent catchments used in the correlation. Therefore, there is no limitation in extending the synthetic record by this means.

64. The Kiwi Flat recorder will suffer the same operational constraints as any other flow recorder, but the key aspect is the rating curve (the relationship that transforms the water level record to flow), and this is relatively stable at this location. One issue could result from a massive slip sending a pulse of sediment down the river, in which case flow measurement will become more difficult, and may require flow gauging to be carried out.

Question 12: Morgan Gorge effect of constriction

Will the proposal exacerbate ponding/aggradation on Kiwi Flat?

65. The effects of the proposal on ponding and aggradation in Kiwi Flat are described in Section 3.5 of the Sediment Report.[25]

66. The weir will increase local water level at downstream end of Kiwi Flat at low flows, but its effect becomes insignificant/not present at high flows as

[24] Appendix-18-hydrology-report.pdf.
[25] Appendix-19 of the Application (Sediment-Report).pdf.

flow is controlled ('choked') by narrow section of gorge downstream and the weir is fully submerged.

67. The weir will cause permanent aggradation of the gravel bed and within the incised natural channel immediately upstream, but the effect will become negligible/not present a short distance (c. 300 m) upstream.

68. In line with the recommendation made in the Sediment Report, Westpower is proposing to undertake 10-yearly lidar monitoring of the riverbed morphology at Kiwi Flat to determine any long-term aggradation or bed degradation in this part of the river[26].

Question 13: Fast-track Amendment Act 2025

Please advise what implications the Fast Track Amendment Bill will have on the Panel's consideration of this application.

Commencement

69. On 16 December 2025 the Fast-track Amendment Act 2025 (**Amendment Act**) received Royal Assent. The Amendment Act came into force on 17 December 2025 and:

    a) 17 December 2025 is the 'first commencement date';

    b) 31 March 2026 is the 'second commencement date' and some listed sections do not come into force until then (as identified below).

    c) New Part 2 of Schedule 1 of the FTAA (in force) includes transitional provisions relating to applications that have not been decided under section 81, before the first and second commencement dates.

70. For the Waitaha Hydro Project, the following sections are technically relevant to the Panel's consideration of the application:

    a) amendments to sections 4, 10A, 66, 81, and 84A are in force;[27] and

    b) from 31 March 2026, new sections 68A and 68B and new section 88.

    Currently in force

[26] Refer Monitoring Plan condition in Part C9 of the consents
[27] Fast-track Amendment Act 2025, s 2 and 51.

71. The amendments that technically relate to the Panel's consideration of the Project are listed below and underlined text applies the change to the Project at this point in time:

    a) Interpretation, there are clarifications of the definitions of:

        i. complex and standard freshwater fisheries activities "that requires disturbance of any duration during the relevant spawning season to a water body that is known for the spawning of trout, salmon, or native fish" (s 4(1), paragraph c (iii)); and

        Salmonoids and native fish have been carefully considered as part of the approvals sought with appropriate management of the effects.

        ii. Government policy statement means a Government policy statements issued under section 10A.

        No Government Policy Statements under s 10A of the Fast-track Approvals Act 2025 have been issued.

        iii. Government policy statements (new section 10A):

    b) the Government may issue a Government policy statement with the purpose of stating its policies about the regional and national benefits of certain types of infrastructure projects; and

    c) a panel must consider a relevant Government policy statement when making decision to grant or decline an approval and set any conditions (s 81(2)(aab)).

    d) Return of substantive application (amended section 66(6) to increase 50 working days to 100): If a substantive application is suspended more than once, the total number of working days during which processing is suspended must not be more than 100.

    No further suspension is sought.

    e) Decisions on approvals sought in substantive application (new subsection 81(2)(ea) and new section 84A): the panel may impose conditions under section 84A relating to infrastructure as follows:

(1) The panel may set conditions to ensure that the infrastructure in the project area or other infrastructure the project will rely on is or can be made adequate to support—

(a) the project; or

(b) the stage of the project to which the application relates.

(2) This section applies in addition to, and does not limit, any other powers to set conditions under this Act.

(3) To avoid doubt, a condition set under this section may impose an obligation on the applicant only.

Westpower's proposed conditions support the intent of this change which is to ensure the constructability, feasibility and success of the Project for the life of the approvals with adequate management of environmental effects. This relates to aspects of the Project to ensure the electricity resilience benefits are maintained, including the overhead transmission lines (as opposed to undergrounding), and in some parts of Waitaha Road, power lines on both sides of the road.

f) For completeness, new clause 13 of Schedule 3 clarifies the members appointed to a panel are not liable when acting in good faith to perform or exercise their functions, duties or powers under the FTAA.

Commencing on 31 March 2026

a) Panel may seek Minister's determination on proposed reduction of scope (new sections 68A and 68B):

New section 68A

i. An applicant must give written notice of its wish to reduce the scope of the application by withdrawing or modifying 1 or more approvals under section 81;

ii. the panel may, but is not required to, submit the proposal to the Minister to determine whether, in its proposed reduced form, the project to which the application relates still has significant regional or national benefits;

iii. if the panel does not submit the proposal to the Minister, the application proceeds in its proposed reduced form.

As set out in section 3.5.1 of the Application,[28] Westpower had considered it would withdraw part of the approvals sought for geotechnical investigative drilling. That was on the intention that the necessary approvals would have been obtained. Unfortunately, due to a variety of reasons that has not occurred and Westpower will not be varying the application.

New section 68B

iv. The Minister may determine that the project may proceed in its proposed reduced form if satisfied of the significant regional and national benefits and within the timeframe specified in the panel's request.

v. If the Minister determines the application may not proceed in its reduced form, the Minister must notify the panel, the EPA and others specified and direct the applicant either:

(1) proceed with the application in its original form;

(2) consider giving notice to the panel under s 68A for a different reduction of scope; or

(3) withdraw the application.

b) Panel seeks comments from Minister for Māori Crown Relations: Te Arawhiti and Minister of Māori Development (new subsection 71A): the Panel may comply with this section when it complies with section 70 which is seeking comment on draft conditions.

We consider this a clarification of the existing ability of a panel to do this under the FTAA.

c) Decision documents for 2 or more approvals may be issued at the same time or at different times at the discretion of the panel (new subsection 88(1)(A)).

While the draft decision and conditions are expected before 31 March 2026 (to enable the Panel to meet its decision timeframe), the Panel may choose to utilise this in its release of the final decision.

[28] Waitaha-Hydro-project-substantive-application-documents.pdf.

National Policy Statements released 18 December 2025

72. The Government notified new and amended National Policy Statements on 18 December 2025.[29] These come into effect on 15 Jan 2026.

73. As requested by the Panel in RFI #3 issued on 22 December, Westpower will submit an analysis of the relevant statements on 21 January 2026 with its response to sections 51 and 53 comments.

74. For reference, the relevant National Policy Statements are the:

    a) National Policy Statement for Renewable Energy Generation; and

    b) National Policy Statement for Electricity Networks.

Dated: 16 January 2026

Paul Beverley / David Allen / Rachael Balasingam

Counsel for Westpower Limited

[29] 201125-Full-Public-Notice-for-national-direction.pdf