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Joint Hearing of Resource Consent Applications

Applicant: Rangitata Diversion Race Management Ltd - Klondyke Storage Facility.

Independent Commissioner – Chair; Paul Rogers.

Thursday 3rd May 2018.

Hearing Introduction:

- My name is Daniel Stack,
- And I will also be speaking on behalf of my father John Stack. I lease from my parents a 200ha at Arundel. The farm straddles both sides of the river at the Arundel Bridge.
- I support irrigation and storage of water for that purpose.
- I oppose consent CRC170652 (53m3 storage pond) as it poses a risk to the environment (being farmland including ours, houses buildings etc.) from a dam breach, in particular Scenario 2 (west breach) as reported in the Dam Breach Study of Nathan Fletcher.
- John opposes all consent applications.

My particular concerns are:

- The potential of a Max. Flood Depth of >2m from a West Breach at 100m3/s river flow, and that no modelling has been completed for a river flow at a higher level during a natural flooding event. 1957 flood recorded 2,400m3/s at the Arundel Bridge.
- Estimate Potential Loss of Life (PLL) report (1 Sep 2016, MWH/ Stantec to Gavin Kemble referenced in Nathan Fletchers evidence) notes from a western breach a dwelling near Arundel with a maximum DV (Depth Velocity) of 5.7m2/s results in a PLL of 1-which could be me or my family.
- River terrace erosion impacting on the safety of the pond structure. The set-back/buffer zone distance of 100m is inadequate.
- In a letter from Nathan Fletcher -08 March 2018 in reply to his and Ben Currys visit with Dad and I, states -'from 1962 the top of the terrace appears to have moved by between 20-50m'.
- No evidence supports that the river terrace won't behave differently if wet from leakage and under pressure from pond weight so previous observed erosion is unreliable and potentially far worse.

- Statement of evidence –Steven Woods (Stantec) 28 March 2018, states that 'A flood in the Rangiata causing erosion of the river terrace below (that is underneath) the pond... is considered a non-credible potential failure mode (PFM). Although this is in contradiction to his own summary of a workshop-Appendix E- between Ben Curry, Nathan Fletcher, Pickford Consulting, Riley Consultants and Tonkin and Taylor- where it is identified as <u>Yes</u>-A Credible PFM.
- Nathan Fletchers report does not address river terrace erosion in the Dam Break Study report.
- 3. The dewatering ability of the storage pond of 11days in the event of an imminent failure is too slow. Major weather events happen faster than that.
- Opuha Dam was dewatered in a matter of hours in Feb 1997.
- That there is no provision for adequate compensation for losses due to flooding damage from a dam breach.

Further analysis and/or conditions I would like included are:

- The Dam Break Study to include a 'Rainy Day' scenario where the river terrace has eroded and impacting on the dam structure being a Credible PFM (potential failure mode), and the river at a higher flow more aligned to a flood event, even though it is an off- stream storage pond.
- A greater distance of set-back from the terrace is required. It is very difficult to train or redirect the river direction as was proposed in Steven Woods statement of evidence to mitigate river erosion.
- 3. Or a method of calculating what storage capacity is permitted, determined by how close the river is to the embankment.
- 4. Or a multiple pond design or a pond with a larger surface area therefore having a lower water depth.
- 5. Liability for loss to property (and life) to be RDRMLs.
- 6. Dewatering ability within 3days.
- The later consent application of CRC 182541 –Emergency discharge to river needs to include a far larger flow (than the 40.7m3/s) to allow much faster dewatering.

Thank you for listening to my concerns.

Do you have any questions?

Other notes:EAP-Emergency Action PlanPIC-Potential Impact ClassificationPAR-Population at RiskPLL-Potential Loss of Life.DV-Depth Velocity (indicate hazard to life)Pond -53m m3 storage.Steven Woods-Stantec NZNathan Fletcher-Stantec NZ

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