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Strategic and Spatial Planning
Waikato Regional Council

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Irrigation New Zealand Submission on the proposed policy on dangerous dams, earthquake-prone dams and flood-prone dams

Irrigation New Zealand (IrrigationNZ) welcomes the opportunity to contribute to the Waikato Regional Council proposed policy on dangerous dams, earthquake prone dams, and flood prone dams.

Irrigation New Zealand wishes to acknowledge the previous highly constructive engagement with Waikato Regional Council (WRC), in particular Owen Smith, during our joint contribution to the Technical Working Group supporting MBIE in the development and implementation of the Dam Safety Regulations that come into effect in May 2024.

IrrigationNZ represents over 3,800 members nationally, including irrigation schemes, individual irrigators, and the irrigation service sector across all regions of New Zealand.

Our irrigator members include a wide range of farmers and growers – sheep and beef, dairy and cropping farmers, horticulturalists, winegrowers, as well as sports and recreational facilities and councils. We also represent over 120 irrigation service industry members – manufacturers, distributors, irrigation design and install companies, and irrigation decision support services for both freshwater and effluent irrigation.

We are a voluntary-membership, not-for-profit organisation whose mission is to create an environment for the responsible use of water for food and fibre production for local and international consumers and to sustain the wellbeing of communities.

As an organisation we actively take a technical leadership role in promoting best practice irrigation and carry out a range of training and education activities associated with freshwater management. We have trained hundreds of people in the irrigation sector on various aspects of irrigation best practices to improve water use efficiency (lowering consumption) and better manage environmental effects (improved soil moisture and surface water management).

IrrigationNZ members share many of the same goals as other New Zealanders:

- Reduce their environmental footprints and see improvements in the health of the natural environment,
- Contribute to the wellbeing of their communities, and
- Provide for a resilient future for New Zealand in the face of climate change.



IrrigationNZ General Statements of Principles

IrrigationNZ is in general supportive of the WRC policy on dangerous dams, earthquake-prone dams and flood-prone dams and its purpose. We acknowledge that there are likely some water storage structures that have design and operational issues. IrrigationNZ support good processes and polices to identify and address this for community safety.

The MBIE Dam Safety Regulations that require Regional Councils to adopt a position on dam safety through policies is understandably a very complicated path to navigate for a rural dam owner. We feel the rural sector is being pulled in two directions; on one hand they are being encouraged through government policy to increase water availability and security through the development of water storage for irrigation, stock water or frost fighting and on the other hand storage structures that have already been through resource and building consents are now required to interpret retrospective definitions on safety with added compliance costs.

Your consultation indicates it is not intended to challenge the Act or Regulations. However, we recommend you continue to participate in the Technical Working Group process with MBIE where available to improve your ability to implement a policy that actually targets the real risk issues without creating regulatory burden for your organisation or for dam owners.

IrrigationNZ commend WRC for its approach to the Dangerous Dams Policy and the effort to make the regulatory process as straight forward as possible. However we want to highlight some areas that we feel may still be ambiguous, largely arising from the remaining confusion in the enabling Act and Regulations.

- Preamble accompanying the Policy document.

You make a statement that we believe, if it translates into an interpretation of the policy or is used in other preamble statements, is inaccurate; *"Those new requirements include the Building (Dam Safety) Regulations 2022 (Regulations) which come into effect in May 2024. From that date, owners of dams that meet the height and volume requirements will need to confirm the potential risk their dam poses, **put in place safety plans and undertake regular dam inspections.**"*

The sentence is written as an inclusive list but could be amended to be clearer, that *"Only dams that are attributed with a medium or high PIC are required to put in place safety plans and undertake regular dam inspections."* This is better stated in a later section of the preamble, so consistency is needed.

Reference to specific sections of the draft Policy

- Introduction, reference to thresholds.

We note WRC is included in the targeted consultation on reconsideration of the threshold values. We recommend aligning the finalisation of the WRC Dangerous Dams Council approval process until after the completion of the targeted consultation or at minimum add a note that allows reference to "or other values that may be designated in future versions of the Dam Safety Regulations". This may avoid duplication of effort.

- Commencement and review.

Will the WRC Dangerous Dams policy by way of achieving Councillor approval bring them into effect before the Regulations themselves come into effect in May 2024? WRC have been party to discussions at the NZSOLD Symposium and the Technical Working Group that identified the enforcement of compliance with the Dam Safety regulations by August 2024 will be problematic due to lower than anticipated capacity of recognised dam engineers and gaps in the national dam inventory for dams under 4m. MBIE suggested that Regional Councils would be pragmatic and apply leniency, but this would suggest either a policy statement was needed to that effect or again a Regional Council would be obligated to turn a blind eye to an Act. Neither seems tenable in terms of certainty for dam owners.

- Principles.

Point 3 could be clearer on the sequence of obligations. The statement of principle moves quickly to obligations on owners of dams that are dangerous. The Regulations place an earlier obligation on all dam owners to first measure their dam against the classifiable threshold, then for those that exceed the threshold conduct a PIC (Potential Impact Classification), which are activities that come before any obligations as stated regarding *"monitoring, reviewing and reporting on dangerous, earthquake-prone and flood-prone dams, and for reducing or removing the risk of harm to people, property and the environment in a timely and effective manner."*

- Information on dam status.

We note the removal from the WRC Dangerous Dams policy of the obligation to maintain a database for all dams made under the regulations on a Regional Council. The inclusion but poor definition of "ALL" dams within the Act and Regulations continues to create confusion about applicability to such minor structures as duck ponds, effluent ponds, canals and even constructed wetlands. We are encouraged to note our previous contribution during your drafting process was considered and amended within your policy with aspects that apply to "all" dams. We are however concerned this may leave you exposed to having "turned a blind eye to the requirements as set out in an Act". We agree with and support your position, as has been well explored at the NZSOLD Symposium on large dams, that showed gaps and uncertainty in the existing National Dams Inventory. The inventory does not account well for the existence and location of dams under the current classifiable threshold of 4m height.

- Working with Dam Owners.

Ambiguity is introduced across this document and in the section as some classifiable Dams may be determined to be of low PIC so are not by definition "dangerous". It should be made more explicit that the policy doesn't not apply to low PIC dams.

IrrigationNZ interpretation of the process required under the Dangerous Dams Regulation draws on but is not identical to the non-statutory NZSOLD Guidance on assessing large dam risks. The PIC process adopted by MBIE only looks at an assumed uncontrolled discharge, not the nature of construction or design to determine risks to downstream population, infrastructure, and environmental features. Design and hydraulic risk are only assessed in a Dam Safety Assurance Plan (DSAP) for dams and that is actioned only for a medium or high PIC. It is this process of review that could determine a labelling as earthquake- or flood-prone and not the PIC which does not consider such things as the materials used, embankment geometry or hydrology of the structure that may have led to the hypothetical uncontrolled release. It could be possible that a

low PIC structure i.e. poorly built from the wrong materials to withstand an earthquake or have in adequate spillway capacity, may be built in remote locations that have otherwise low consequential risk.

The WRC Policy on Dangerous Dams therefore needs to reference some other evaluation process to determine earthquake prone or flood prone status than just a PIC certification. That may already be within the Building Consent assessment for structures over 4m and 20,000m³.

You are aware all North Island regional councils, except Auckland Council, have transferred their powers to process all building consent applications for dams to the Waikato Regional Council. The Waikato Regional Council will also undertake the inspections required during the construction phase and issue the final code of compliance certificate once the dam has been completed.

The Act requires the Regional Council to be the approval body for the PIC certification to either accept or reject the document submitted. This implies having a level of expertise at or above that of a recognized dam engineer. Alternatively the WRC Dangerous Dam Policy needs to be clear that obligation to be the approval body is being defaulted to the certification signatory.

The Regulations introduce the complexity of assigning a risk to cultural sites that is not in the NZSOLD guidelines. The risk to cultural sites is set with a very low threshold in the Regulations potentially substantially increasing the number of structures that are assigned Medium or High PIC that otherwise would be Low, an administrative burden on the dam owner and Regional Council.

- Directing and taking action.

The WRC Dangerous Dams Policy doesn't talk about the management of the database to meet the five yearly review of the POIUC certification required under the Regulations. The Regulations leave the discretion to require the dam owner to produce a recertification by a recognised dam engineer, even for low PIC, with the Regional Council.

Information appended to the original PIC certificate will not necessarily allow the review to identify any changes in actual risk exposure or method of PIC assessment used. While the NZSOLD guidelines are widely available the Regulations only partially compel a practitioner to use a particular common process of assessment compared to their peers.

For dam owners the details of method used, and evaluation criteria used in determining the PIC should be documented, attached to the PIC and be searchable. This would provide opportunity to challenge and correct information held. This would also expedite and make more cost efficient the decision by the Regional Council to reject or require second opinion as allowed under the regulations. At the five yearly anniversary the process of determining the need for recertification will be more efficient if the previous information is readily available to confirm nothing has changed in the risk determination.

- Council's priorities in performing these functions.

IrrigationNZ maintains a real concern that the capacity and capability to resource such Dangerous Dams Policies will be affected by the inadequate National Dam Inventory and that there is an overstating of the assumptions on what a Regional Council database will achieve in identifying and improving risky dams.

IrrigationNZ believe it is wrong to think the NZSOLD PIC process has translated with correct proportionality to regulations to address both large and small dam risks. Internationally similar processes generally ignore dams under 10m or adopts a different assessment process for structures under 10m but above 5m i.e. small dams. Those very small dams under 5m are generally excluded.

We are available for further consultation on these issues, so please do not hesitate to reach out.

Please, direct any inquiries to:

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