10.1. Proposed Regulatory Frameworks for Dam Safety 2019

Prepared for: Policy Committee
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PURPOSE
[1] To provide background on proposed regulations for the management of dam safety and seek endorsement for ORC’s feedback on the proposal.

EXECUTIVE SUMMARY
[2] The Ministry of Business Innovation and Employment (MBIE) has released a discussion paper outlining proposed regulations to address framework gaps with respect to dam safety management. Currently, there are no regulations to give full effect to the framework for dam safety management contained in the Building Act 2004.

[3] Gavin Palmer (General Manager Operations) is a member of the Dam Safety Technical Working Group that has advised MBIE officials on the proposed framework.

[4] The current situation is that most dams are not subject to a nationally consistent dam safety management programme and as a result there are significant risks and liabilities for the Government. Little work is now required on the part of Government to put in place world-class dam safety legislation which will bring New Zealand into line with other OECD countries. The proposed regulations balance compliance costs and public safety risks.

RECOMMENDATION
That the Council:

BACKGROUND
[5] Otago Regional Council is responsible for building control for dams and their appurtenant structures in Otago and has delegated responsibility in West Coast and Southland, along with responsibility for additional dam safety management functions. It therefore has an interest in the development of any regulations which may affect and assist the exercise of these functions.

[6] There are approximately 3,285 known dams in New Zealand however the information for many of them is incomplete, including height, volume and construction type. Dams are controlled by the Building Act 2004, RMA 1991 and the Health and Safety at Work Act 2015. In addition to this, the New Zealand Dam Safety Guidelines 2015 are generally accepted as national best practice guidelines for the construction and operation of a dam.
The Building Act classifies dams as buildings, and controls the construction, alteration, demolition and removal of any dam over specified dimensions.

**ISSUE**

While the Building Act provides a framework for dam safety management, a longstanding issue is there are no regulations to give full effect to that framework. This has resulted in gaps where there is no comprehensive scheme to monitor and maintain the structural integrity of dams in New Zealand, including the management of potential downstream risk that dams pose to people, property and the environment.

No national database of dams exists for New Zealand, resulting in patchy and inconsistent information being held solely by regional authorities. Information on the size, type, downstream geography, and the potential impacts of a dam failure is critical for designing a nationally consistent scheme for dam safety management.

**DISCUSSION**

**Regulatory Framework Gaps**

The discussion paper identifies that the gaps for achieving a full dam safety framework are:

- **Downstream risk** – the current framework does not specify the safety related activities dam owners should undertake to guide monitoring and maintenance to avoid dam failure. In the absence of this, it appears management of dam failure risk is very inconsistent throughout New Zealand.

- **Who does what?** – Dam owners lack certainty as to what safety related assurance activities they are required to undertake, as the building code is not supported by a suitable framework to direct this.

- **Compliance conditions** – Across New Zealand there is inconsistency between regional authorities applying consent conditions (if any) to require dam maintenance. This not only can increase downstream risk but also contribute to dam owners’ uncertainty as to what their obligations are. It is also problematic for owners of multiple dams as those dams under their management are subject to inconsistent requirements.

The solutions to these gaps are addressed in the proposed regulations by:

- taking a risk-based approach
- regional authorities monitoring and enforcing compliance
- balancing benefits against costs.

**Risk based approach**

The proposed regulations will require dam owners to take an approach proportionate to the risk their dams pose by targeting ‘classifiable dams’ based on the potential downstream risk they pose to people, property and the environment. Currently, building consent is only required for a dam, storage pond or canal that has a height of
four or more metres and holds 20,000 or more cubic metres volume of water or other fluid. An important change is that dams now less than 4 m in height will be deemed “classifiable” under the proposed regulations if over a certain volume. Currently, dams under that height threshold are not required to obtain building consent, regardless of volume. The proposed regulations will apply to dams regardless of their type, when they were built and whether they have building consent.

[13] The key instrument to assist owners and authorities to understand the risk profile of the dam will be a Potential Impact Classification (PIC) assessment. A PIC assessment is to be provided by the dam owner to assess the potential consequences of failure. The PIC system estimates the likely downstream impacts and that impact is rated as being either Low, Medium or High. Due to the technical nature of undertaking a PIC assessment, dam owners will need most of their information signed off by a ‘recognised engineer’. The proposed regulations outline the skills and competencies a ‘recognised engineer’ must meet.

[14] A dam that is classified as Low PIC will be required to have its classification reviewed by a recognised engineer within every five-year period. For dams classified as Medium to High PIC, in addition to the five-yearly review, the dam owners are also required to develop a Dam Safety Assurance Programme (DSAP) certified by a recognised engineer which must include ongoing monitoring and maintenance protocols. Owners must report compliance with their DSAP annually to the regional authority.

[15] Dam information, including PICs, will be required to be provided to regional authorities so a more complete accounting of New Zealand’s dam stock is maintained.

Regional Authorities role

[16] Regional authorities will be required to:

- Establish and maintain a register of dams
- Accept PIC assessments that have been certified by a recognised engineer
- Approve or refuse DSAPs for Medium and High PIC dams
- Develop dam safety policies for dangerous, earthquake-prone and/or flood prone dams

[17] Authorities will be able to fine dam owners for failing to comply with the regulations using enforcement powers under the Building Act. Importantly, the onus for providing the correct information to regional authorities will remain with the dam owner.

Benefits and costs

[18] The proposed regulations have been developed to be mindful of avoiding unnecessary costs. Compliance costs will mainly affect Medium and High PIC dams that do not have adequate DSAP plans already in place. The main costs will be in initial set up costs to comply with the proposed regulations. It is noted that all responsible dam owners would be expected to already be undertaking the requirements of the dam safety regulation as a minimum as per the NZSOLD guidelines. Possible costs to ORC are discussed below under Financial considerations.
OPTIONS
[19] ORC can choose to provide supportive feedback or not. ORC staff are supportive of the regulations and this is reflected in the feedback. ORC has collaborated with other councils in preparing the submission.

CONSIDERATIONS

Policy Considerations
[20] If the regulations come into force, there will be consequences for ORC’s existing dam management processes however it is unclear whether these would need to be formalised through policy adoption.

Financial Considerations
[21] Otago Regional Council can expect an increase in operating costs should these proposed regulations be implemented. These costs are likely to be modest and largely in the form of administration – the receiving, assessing and recording of information, such as PIC assessments. There may be some initial implementation costs ORC considers necessary, such as a review of the current Otago dam information held and whether there are any obvious omissions based on recent information.

[22] To date, ORC has been applying dam safety requirements to dam owners through conditions of their resource consents to dam water. These dam safety conditions are consistent with the proposed regulations. Once the regulations come into effect, the ORC will need to consider which consents are appropriate to review in accordance with Sections 128 and 129 of the RMA to remove any potential duplication. Additional resourcing may be required to undertake this work. Alternatively, some dam owners may seek to change their consents under section 126 of the RMA.

Significance and Engagement
[23] The proposed regulations have attracted media attention in that they will apply to not just dams but also storage facilities such as oxidation ponds. This is the intention of the proposed regulations. Should the regulations come into effect, ORC may need to prepare for engagement with owners of such facilities and assist them to understand their new regulatory obligations.

Legislative Considerations
[24] The proposed regulations, if in effect, will require ORC to determine the appropriate process for their application as part of its function as a building consent authority.

Risk Considerations
[25] ORC staff have recognised the proposed regulations will require and expansion of procedures as discussed above in point 21. No issues of significant risk have been identified.

NEXT STEPS
[26] If Council accepts the recommendation of this report, the feedback must be lodged before the feedback period closes on 6 August.

ATTACHMENTS
2. submission-template-proposed-regulations-for-dam-safety ORC DRAFT [10.1.2 - 7 pages]