

# The politics of dam safety legislation

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**Dam safety legislation has been a “hot potato” in New Zealand for decades, under various governments. So what is it, and why is it so controversial?**

Dams provide significant benefits to society, but they can also present hazards that need managing. Once a lake is filled, seepage pressures affect the dam, its abutments and foundation, and around the reservoir rim. Defects are initially exploited when the dam experiences its full reservoir load for the first time. So the highest likelihood for failure of a dam is within the initial years after the lake is filled.

It's crucial we monitor dams closely in the early years. But because there's ongoing residual likelihood of failure at any point in a dam's life cycle, ongoing monitoring is a key part of protecting not only the asset value, but also people, property and the environment throughout a dam's life.

Failure later in the life cycle can be down to deteriorating conditions, new load conditions imposed by nature, or human influences. Experienced staff who know what to look out for identify the majority of developing dam failures by sight during inspections. There's also advice available. The New Zealand Dam Safety Guidelines offer professional guidance for all phases of a dam's life cycle. The guidelines reflect international best practice and recommend dams be designed, constructed, operated and maintained to a level comparable with their consequences of failure.

But these are guidelines provided by the industry. They're not a mandated standard or approved code of practice. So what about dam safety legislation?

Dam engineering in New Zealand is governed by the Building Act and building consent process, for dams greater than 4m in height and 20,000m<sup>3</sup> volume of storage. In contrast to other developed nations, there isn't any specific legislation governing the safe management of dams, unless owners have relevant resource consent conditions.

We've seen dam safety regulations almost created under the Building (Dam Safety) Regulations 2008 in June 2015. Now post-construction dam safety is being evaluated as a potential National Environmental Standard (NES) under the Resource Management Act (RMA). The issue seems to be about finding the balance between red tape and undue cost, and ensuring appropriate levels of public safety through prudent management of dams.

There's a lingering fear that we'll see legislation imposed as a “knee jerk reaction” to a dam failure with significant damages or loss of life. For responsible dam owners, this could lead to higher compliance costs as the pendulum swings to the extreme to reassure the public that legislation will “prevent an incident happening again”. Surely it's preferable for everyone that we find a considered and cost-effective outcome before, and to prevent, a significant failure taking place?



Responsibility for dam safety lies squarely with the owner. Informed dam owners are aware that prudent dam safety management is also good business. They understand there are consequences of a failure – under Civil Law, the Civil Defence and Emergency Management Act 2002, potentially under the Health and Safety at Work Act 2015 and certainly when it comes to renegotiating resource consents.

We're incredibly fortunate in New Zealand to reap the benefits of dams for renewable energy generation, water supply, flood control, irrigation and recreation. Managing these valuable assets prudently means we need to understand the risks they pose. We need a robust dam safety management system to make sure anomalies are detected – before it's too late.

Will legislation play a part in ensuring this? Time will tell. ■

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