

# **SUBMISSION PROPOSED REGULATIONS FOR DAM SAFETY**

Engineering New Zealand is New Zealand's peak professional body for engineers. We are New Zealand's strongest and most influential voice on engineering issues. Our membership is growing, with more than 22,000 members who shape our public policy agenda.

The New Zealand Society on Large Dams (NZSOLD) is a technical group of Engineering New Zealand. As our technical experts in this area, we have worked closely with NZSOLD to inform our submission. We also support their submission (which they have sent to MBIE directly). Together, we are offering to work with MBIE to finalise the proposals.

## **WE SUPPORT NEW DAM SAFETY REGULATIONS**

We support the proposed post-construction dam safety regulations. These regulations are long overdue. The overall scheme will create a stronger regulatory framework for the active management, inspection and maintenance of dams that will help ensure their ongoing safety.

Our comments in this submission focus on the role of engineers in the proposed post-construction safety system. In this respect, we believe some aspects of the proposal need further refinement to make them fit for purpose – specifically the name, definition and responsibilities of Recognised Engineer. We want to work with you and NZSOLD to get this right.

## **“RECOGNISED ENGINEER” IS CONFUSING**

We believe there is confusion about the title and role of a Recognised Engineer. Recognised Engineers audit post-construction dam safety. This role is distinct from engineers who are involved in the design and construction of dams and different skills are required. Yet we understand there have been instances where dam owners have unnecessarily required dam designers to be Recognised Engineers. This is a problem because Recognised Engineer is not a mark of design competence. We think much of this confusion stems from the lack of clarity provided by the title Recognised Engineer in the Building Act.

While we understand MBIE has not proposed amendments to the Building Act to clarify this, we believe the title Recognised Engineer needs to be changed to ensure it's clear what this role is. Options might include

“Dam Safety Auditor” or “Dam Safety Programme Auditor”. If the legislation cannot be changed at this time, we need to investigate how to clearly define this role within the regulations.

At a high level, we consider that, where appropriate, engineers who design dams should be covered by the licensing regime currently being considered by MBIE in the area of building and construction (and we encourage MBIE to carefully consider how dam design fits within that proposal). Auditing engineers would be covered by the Building Act and its regulations.

There is also the potential for confusion around the terms “audit”, “certify” and “review”, which are used relatively interchangeably in the Building Act. We agree with NZSOLD that the guidance document that sits alongside the regulations should spell out exactly what those terms require in different contexts.

## QUALIFICATIONS OF RECOGNISED ENGINEERS

As noted in the discussion document, the Building Act defines a Recognised Engineer as an engineer who: “has no financial interest in the dam concerned; is registered under the Chartered Professional Engineers of New Zealand Act 2002; and has the prescribed qualifications and competences”.

We agree that the proposed qualification requirement – an engineering qualification from an accredited programme recognised under the Washington Accord – is met by the existing requirement for Recognised Engineers to be Chartered Professional Engineers. We also agree with NZSOLD that the Recognised Engineer’s Practice Field and Area must be appropriate to the proposed Recognised Engineer competencies.

## COMPETENCIES OF RECOGNISED ENGINEERS

As noted above, the regulations need to provide absolute clarity that Recognised Engineers audit (as opposed to design). The prescribed competencies should be aligned to the specific skills required to be a competent auditor in this space.

We share NZSOLD’s concerns that the proposed prescribed competencies of a Recognised Engineer are not quite right yet:

- Dam safety management systems have many parts (examples include Potential Impact Classification, surveillance, dam safety reviews and governance). Many different areas of expertise are involved in each of these different parts (expertise in structural engineering, geology, geotechnical engineering, hydrology, instrumentation, dam-break analysis, emergency action planning etc). Engineers carrying out a certification or auditing role don’t need technical competence in all the geotechnical and design principles or construction techniques related to the classification, design and construction of dams. Rather, the certifying/auditing engineer needs the skills and knowledge to make a sound judgement about whether the right expert has done the right job to the right standard at the right time. This is why we think that the proposed prescribed competencies (particularly the first three bullets) are not the core competencies needed to be demonstrated by a Recognised Engineer – they are too particular. We are concerned about capacity to meet demand if a Recognised Engineer is required to hold all these specialist technical competencies.
- The competencies prescribed should be articulated as the minimum and compulsory requirements that *all* Recognised Engineers must demonstrate – it should not be a list where only some competencies need to be held.

We want to work with NZSOLD and MBIE to identify the minimum competencies of a Recognised Engineer, bearing in mind the specific nature of the role. Once we have these, we can review the Guidelines for Assessment of Recognised Engineer.

## **REGISTER OF RECOGNISED ENGINEERS**

As the discussion document notes, Engineering New Zealand will develop and oversee an assessment process to determine whether an engineer fulfils the proposed competency requirements required to be a Recognised Engineer.

We propose that one way to do this is to create a Register of Recognised Engineers through our current mechanisms for establishing engineering registers. This would prescribe a clear process to be on the register and corresponding accountabilities, as well as make it clear to the public who is a Recognised Engineer.

## **IMPLEMENTATION TIMEFRAMES**

We are concerned the requirement that dam owners provide their Potential Impact Assessment to the regional authority within three months of the regulations commencing may be difficult for some owners to meet. Some Potential Impact Assessments will be complex, and appropriate expertise may be in high demand. It may be more appropriate to allow dam owners 12 months from the time of the regulations commencing to notify their Potential Impact Assessment.

## **RESPONSIBILITIES OF DAM OWNERS**

Page 23 lists the responsibilities of dam owners under the proposed regulations. A key responsibility missing from this list (but addressed later in the discussion document) is the responsibility of owners to follow the dam safety assurance programme – to implement and monitor.

## **RESPONSIBILITIES OF REGIONAL AUTHORITIES**

One of the responsibilities of regional authorities is to adopt a policy on dangerous dams. The discussion document notes that the policy is to be determined by the individual regional authority. We are thoughtful that this may result in inconsistencies and inefficiencies across the system, and we prefer an approach that is aligned across the regions.

## **THE SEVEN STEPS, GUIDANCE AND FORMS**

We agree with and support NZSOLD's comments on the seven steps and guidance and forms. We also support the preparation of guidance for regional authorities, dam owners and technical practitioners, led by MBIE and supported by NZSOLD.

## **CAPABILITY AND CAPACITY**

During a recent meeting, MBIE asked for our comment about engineering capacity to meet the new regulatory requirements, as this will influence your timeframes.

There are currently 171 Engineering New Zealand members who are members of the [NZ Society on Large Dams](#), comprising two-thirds of NZSOLD's membership.

In general terms, a Chartered Professional Engineer who is a member of NZSOLD in good standing and who practises competently in the areas of dam potential impact classification and dam safety management systems would likely be competent to be listed as a Recognised Engineer. We understand there are a sufficient number of engineers potentially capable of and interested in meeting the requirements to become a Recognised Engineer.