

CHARTERED PROFESSIONAL ENGINEER REVIEW

DRAFT FOR CONSULTATION

November 2020



engineering
new zealand
te ao rangahau

CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	2
HOW DID WE GET HERE?	5
THE PLATFORM FOR CHANGE	8
ANALYSIS AND PROPOSALS	11
Making CPEng fit for purpose	11
Introducing discipline-specific classes of CPEng	11
Basing assessments for these discipline-specific classes on BOKS	11
An alternative to licensing?	11
A strong pool of lead and practice area assessors	13
Should audits and practising certificates replace compulsory reassessment?	13
Making complaints and appeals more efficient and effective	16
How can we better manage the risk of an individual to the system?	16
Do we need more power to hold engineers to account?	17
Is there a better way to manage appeals?	20
Fixing the relationship between CPEng and membership	21
There is confusion between CPEng and Engineering New Zealand's Chartered Membership class	21
Should CPEng registration be connected to Engineering New Zealand membership?	23
NEXT STEPS	24

EXECUTIVE SUMMARY

OUR VISION

We want a robust and unambiguous quality mark that works for all engineering professionals and for the public. One that works for any engineering discipline, is internationally recognised, and sits within a regulatory framework that is effective, transparent, maintains standards, responds to risk and holds engineers to account when things go wrong. One that makes “Chartered” synonymous with engineering quality. We see this quality mark as ideally owned by the profession but accept that it could sit within regulation with Government oversight at the right level.

OVERVIEW OF KEY RECOMMENDATIONS

This document outlines proposals to strengthen Chartered Professional Engineer (CPEng), in support of raising the bar for engineers and increasing public confidence in the profession. It builds on many conversations and the 2019 consultation on the Government’s regulatory proposals to set a path forward for the profession.

It intends to move us towards our vision of an unambiguous Chartered quality mark for the engineering profession – something engineers of all disciplines will strive for, and that the public know they can trust. To achieve this, we need to both raise standards and make sure our interventions are proportional to risk. Raising standards would make CPEng harder to both gain and retain. Introducing classes of CPEng that set clear competence requirements for specific disciplines would raise the bar for entry.

This is a draft for feedback, with many details to be worked through if members and CPEngs support the proposal at a high level. We want to hear what works and doesn’t work, so we can create a framework that has widespread support. The deadline for feedback is 20 January 2021.

These are some of the key proposals we want to hear your thoughts on:

- Focusing on CPEng as the quality mark for professional engineers and making it relevant for all disciplines.
- Introducing specific CPEng assessments for some disciplines (incorporating assessment against Bodies of Knowledge and Skills (BOKS) and developed in collaboration with technical groups), leading to registration classes that function as an assurance engineers can perform specific work.
- Streamlining the assessment process using clear gates to proceed to the next step.
- Moving from standardised periodic reassessment for all to a more targeted, risk-based reassessment based on robust audit processes.
- Making the complaints and disciplinary process more robust and streamlined.
- More explicitly tying CPEng to Engineering New Zealand membership.

INTRODUCTION

THE CURRENT SYSTEM IS LETTING US DOWN

The current regulatory system for engineers in New Zealand is fragmented and more confusing than it needs to be. It does not provide sufficient assurance to the public that engineers are competent to practise or appropriately held to account when standards slip, as high-profile failures have demonstrated.

Under the current regulatory system, there is no compulsory registration of engineers in New Zealand. There are two voluntary quality marks – Chartered Professional Engineer (CPEng) and Chartered Member of Engineering New Zealand (CMEngNZ) – which are similar, but different in their breadth and scope. When we introduced Chartered Member in 2017, it was never intended to coexist indefinitely with CPEng.

CPEng was originally intended as an overall quality mark for all professional engineers, but many of its procedural aspects make it unattractive to engineers who don't "need" it, diluting its impact. At the same time, in the absence of mandatory professional regulation, CPEng is being forced to play a role it wasn't designed for. For example, it's being used by Building Consent Authorities as a de facto "licence" to sign off producer statements, despite not being intended to guarantee engineers' competence to perform this work. Nor does CPEng cover other engineering professionals who play a critical role in providing New Zealanders with engineering services, including engineering technologists, engineering technicians and engineering geologists.

The current regulatory system for engineers is also complex. The Government, Chartered Professional Engineers Council (CPEC) and Engineering New Zealand, in both its roles as the professional body and as the Registration Authority for Chartered Professional Engineers (the RA), all play various roles. The RA oversees the registration of Chartered Professional Engineers in New Zealand. Engineering New Zealand also oversees the self-regulation of professional engineers, engineering technologists, engineering technicians and engineering geologists through its Chartered Member class.

This paper has been produced by Engineering New Zealand in its role as RA, and the proposals are specific to strengthening the CPEng regime.

CHANGE IS SUPPORTED BUT PROGRESS HAS STALLED

Since the Canterbury Earthquakes Royal Commission's report was released in 2014, successive Governments have talked about changing the way engineers are regulated. Engineering New Zealand made changes to our membership pathway, creating Chartered Member, in anticipation of this. When the Ministry of Business, Innovation and Employment (MBIE) released a discussion document proposing a new occupational regulation model for engineers in 2019, we undertook extensive member consultation. While we didn't agree with all of the Government's proposals, our view – confirmed by the feedback we received – was that licensing for engineers working in high-risk fields would be one way to set regulation at the right level; that is, where stakes are high.

During this consultation, we also heard strong support for CPEng. Our vision is focused on a robust, unambiguous quality mark for engineers in New Zealand – one that is inclusive and internationally recognised, and that sits within a regulatory framework that is effective, transparent, maintains standards, addresses risk and holds engineers to account when things go wrong. Going into MBIE’s 2019 consultation, our view was that the CPEng Act needed too much work, and that it would be preferable for Chartered Member to be the profession’s quality mark. But we have shifted this position, after listening to members.

We now know the Government is unlikely to decide or implement any proposals to reform engineering regulation in the short term. We continue to see high-profile failures, continued confusion, and a demand for change from the profession. That’s why we need to take action now to strengthen the system we have, rather than wait longer for Government-led reform. While we don’t control the whole system, we can strengthen the parts we do manage.

To do this, we want CPEng to move away from an assessment system that lets applicants choose their own area of practice and the work samples they are assessed on, towards a clearer, discipline-specific model that gives the public assurance Chartered Professional Engineers have met industry-approved standards, particularly in high-risk areas.

The proposals set out in this document are based on all the previous conversations we have had with Chartered Professional Engineers and members about options for change, all the work the technical groups have done to date to contribute to CPEng improvement initiatives, and our current understanding of MBIE’s position, which may well change during the course of our consultation and decision-making.

We know engineers and the public are frustrated, and tired of what seems like endless consultation without any real change to how engineers are regulated. If we strengthen CPEng, it could potentially fulfil the role of the quality mark for professional engineers and, in the future, encompass a kind of licensing for safety-critical work alongside complementary and unambiguous Chartered marks for engineering technicians, engineering technologists and engineering geologists. We have undertaken a comprehensive end-to-end review of the CPEng system that suggests this is possible.

We are confident we can make significant positive change to the CPEng system, but we would only do that with the profession’s support.

WHO WOULD THESE PROPOSALS AFFECT?

Ultimately these proposals are about strengthening CPEng as a quality mark for professional engineers, so their greatest impact would be on current and future Chartered Professional Engineers.

However, we also need to consider how any change to CPEng interacts with our vision of an unambiguous Chartered quality mark for all engineering professionals – as well as professional engineers, this includes engineering technologists, engineering technicians and engineering geologists. If CPEng became the only quality mark for professional engineers, we need to think carefully about what this would mean for our Chartered Members who cannot become CPEng. This includes whether our vision for an unambiguous quality mark for the profession could be achieved through other means, such as separate Chartered registers for other engineering professionals. It also includes considering how our membership pathway aligns with CPEng and any other Chartered registers that we create, although this is out of the direct scope of this review.

WE WANT TO HEAR YOUR VIEWS ON SIGNIFICANTLY STRENGTHENING CPENG

This consultation document sets out proposals for creating a robust and effective system that would give clarity to our engineers and provide confidence for the public.

We want to explore whether it is realistic and viable for a strengthened CPEng to move us towards our vision. This would mean making sure CPEng is fit for purpose, that it could raise the bar and that it would appeal to professional engineers of all disciplines.

This means testing our proposal with you. We want to understand its holes and errors, as well as what might work. We're looking for your honest feedback so that we can agree an approach that makes sense to everyone.

And then, we'll take action. This would involve procedural changes that we can make now, for example, to how assessments are currently carried out. It might also involve a change to the CPEng Rules and Act, and our membership pathway, which we can drive. We would in place a defined process to embed agreed recommendations, working with our technical group partners on any changes to competency frameworks.

Thank you for your engagement with this process and your support as we work to strengthen the occupational regulation of engineers in New Zealand.

HOW DID WE GET HERE?

THE HISTORY AND PURPOSE OF CPENG

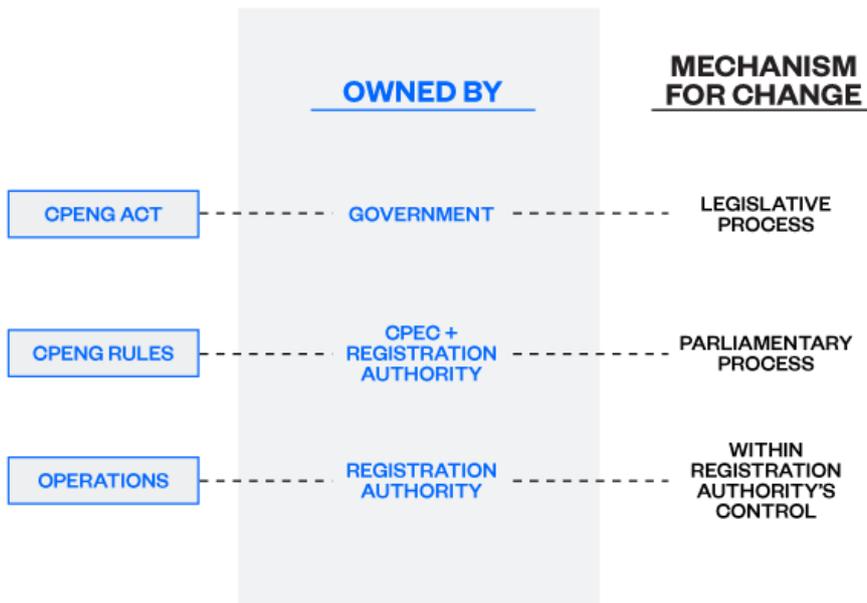
The Chartered Professional Engineers (CPEng) regime has been in place for 18 years. The CPEng Act says that a person who wishes to be registered must meet minimum standards (as set out in section 6 of the Rules). The Act also requires a code of ethics and a complaints and disciplinary process. CPEng creates a register of engineers who have been assessed (and reassessed) for competency, who comply with a code of ethics and who are able to be held to account when things go wrong.

Since its inception, Engineering New Zealand has been the Registration Authority responsible for operationalising the CPEng regime. The Chartered Professional Engineers Council has oversight of the regime and hears appeals.

CPEng applicants define their own practice area and provide a self-selected portfolio of evidence to demonstrate their ability to undertake complex engineering work within that area. The applicant also self-selects their referees. The applicant is assessed by selected peers (assessors) who validate the evidence provided through a professional interview and may also request additional information or set some form of written assignment. The assessors' recommendation is accepted (or not) by the Competency Assessment Board (CAB). It is up to the assessors and CAB to determine, on a case-by-case basis, whether applicants have met the competence standard (in terms of knowledge and skills requirements) for the engineering work they are doing.

CPEng is a voluntary quality mark that, in the absence of mandatory professional regulation, is being used as a default licensing scheme, particularly by Building Consent Authorities (BCAs). High-profile building failures show that CPEng does not provide sufficient assurance that engineers are competent to practise in specific areas nor that they are working within the bounds of their competence. Its limitations have led to workarounds; for example, several BCAs creating lists of "acceptable" CPEngs. At the same time, many of the procedural aspects of CPEng make it unattractive to a wide range of engineers who don't currently "need" it for regulatory purposes – diluting its impact as a quality mark for the whole profession. It also doesn't apply to engineering technicians, engineering technologists or engineering geologists.

Figure 1: How CPEng is governed and operated



WHY WE CREATED THE CHARTERED MEMBER CLASS

In 2017, Engineering New Zealand introduced a new Membership Pathway that included the assessed membership class of Chartered Member. Chartered Membership was introduced as a more-inclusive quality mark, one that recognises other engineering professionals – such as engineering technologists, technicians and geologists, and/or engineers in leadership or academic roles – as having met an internationally benchmarked level of expertise and experience. It was also designed to be attractive to engineers practising outside the civil and structural realm who did not see CPEng as relevant. Engineers who held CPEng could automatically qualify for this membership class; other engineers needed to pass an assessment on a par with CPEng.

We created Chartered Member on the understanding that the Government would soon repeal CPEng and replace it with a new system of regulation that Chartered Member would complement. While we knew having CPEng and Chartered Member operating together would be confusing, our vision was that this would be temporary: Chartered Member¹ would become the quality mark for the profession once CPEng was repealed. We assumed the Government’s bigger plans for occupational regulation included the repeal of CPEng, and would have progressed much further by now.

¹ Perhaps renamed Chartered Engineer, Chartered Engineering Technologist, Chartered Engineering Technician and Chartered Engineering Geologist

THE GOVERNMENT'S REGULATORY APPROACH HAS CHANGED

In 2019, the Government consulted on a proposal for regulating engineers. As well as licensing for safety-critical work, which we support and which had been foreshadowed, the proposal included a new general quality mark described as “certification”, which was similar in nature and form to the current CPEng scheme. Engineering New Zealand carried out significant member consultation on the proposal to inform our submission to MBIE, and MBIE received a large number of submissions. This process showed support for an unambiguous quality mark for the profession and for the parts of CPEng that work well, but not for both a licensing regime and a statutory, voluntary certification scheme operating in parallel with Chartered Member. We have listened to the support expressed for CPEng and this has informed our current proposal.

MBIE is working through its policy process on options to strengthen the regulation of engineers. But any proposals MBIE makes will require a full legislative process and could take years to implement.

OUR STRATEGY MUST NOW ADAPT

There are multiple risks within the systems that engineers work in. Many of these risks are inherent in the nature of the work engineers undertake. As a part of the system, we have a responsibility to address risks within our control.

The CPEng system that the RA administers does not adequately address some of those system risks within our control – notably ensuring professional competency across the board, appropriate disciplinary processes (which are currently constrained by regulation), and that risk is identified and managed early and effectively to protect the public from harm. If CPEng remains, then we must address its issues.

The vast majority of engineers act in ways that uphold the profession and limit risk. In undertaking this review of CPEng, we are endeavouring to uphold the good, lift standards where they need lifting, and address risks where they exist. We need to understand if our proposal will address those risks engineers and the public observe in the current CPEng system.

By strengthening CPEng, we can influence the uptake of the scheme. The public and the sectors in which engineers work, as well as the Government, also affect the uptake of CPEng. This has been demonstrated by CPEng being referenced in legislation pertaining to dams, fire, buildings and transport.

Our objective remains the same – a robust unambiguous quality mark – but how we achieve it may need to change.

THE PLATFORM FOR CHANGE

OUR REVIEW IDENTIFIED MANY ISSUES WITH CPENG

There is a lot about the current CPEng regime that we don't want to lose. The system has a lot of respect and goodwill behind it. CPEng marks out experienced engineers who have shown they can deal with complex engineering problems that require specialist knowledge. It demonstrates they have made a commitment to stay up to speed in their area of practice, and that they meet international standards.

However, there are significant flaws and limitations within the current system.

Central to our case for change, our review identified the following key concerns:

CPEng isn't fit for purpose and doesn't manage life-safety work well

- As the Government's proposals of 2019 acknowledged, a lot of engineering work has life-safety implications. This includes, but is not limited to:
 - Heavy vehicle certifying
 - Recreational safety verification
 - Design verification (including pressure equipment, cranes and passenger ropeways)
 - Structural
 - Geotechnical
 - Fire
 - Water
 - Aeronautical
 - Electrical
 - Transport (including rail)
 - Dam design
- Risk is not appropriately being managed. This has led to parallel, sometimes contradictory, systems being established by other regulators. For example, some councils have created their own lists of "approved engineers" for the purpose of consenting work. There are also registers for heavy vehicle certifiers, recreational safety engineers and design verifiers (pressure equipment, cranes and passenger ropeways).
- Where an engineer's work can pose significant risk to public health and safety, there is a strong case for imposing higher standards for registration. This was a recommendation of the Canterbury Earthquakes Royal Commission, which has fed into the Government's previous work towards the occupational regulation of engineers. The Government has previously signalled it is seeking to restrict (and by doing so hold to account) those who can sign-off or supervise engineering work with significant life-safety implications.
- While different types of engineering work rely on CPEng, the generic nature of CPEng and its lack of clarity about an individual engineer's area of competence mean it isn't well-aligned with other regulators' needs. We see this in dams, heavy vehicle certification and – potentially in the future – water.

The CPEng assessment process doesn't support raising the bar

- CPEng registrants are assessed and reassessed for competence in self-described areas of practice. The assessment process checks if an engineer is competent based on their submitted application portfolio, which is based on self-selected examples of their recent work. The assessment reflects the quality of those examples, rather than whether the engineer has the right knowledge and skills to undertake specific, defined tasks formally recognised in a particular discipline. While there are opportunities in the assessment process to validate evidence, if you can select the best example of your work from the past few years, it may not be representative of your work or overall competence.
- As a result, nearly all applicants pass. We have had repeated feedback from technical groups that successful applicants don't always have the base knowledge and skill they would expect from competent practitioners in their discipline, and that CPEng needs to set a higher bar that is much harder to clear.
- There is a strong argument, particularly in high-risk disciplines like structural or geotechnical, that the RA should be setting more defined parameters that candidates need to meet (for instance, an examination of some kind).
- The individualised nature of the assessment makes it relevant for engineers across the broad spectrum of engineering practice. But it also makes the process seem unclear and decision-making inconsistent, which can reduce confidence in CPEng as a quality mark, particularly when used for regulatory purposes.
- CPEng reassessment processes are out of keeping with other modern professional registration systems and do not act as an effective or efficient safety net to catch problem practitioners. Candidates are reassessed every two to six years (most other jurisdictions have no periodic reassessment), with a 97% pass rate – the current system creates a huge administrative burden that does not mitigate risk by identifying poor practitioners.

Complaints and appeals are inefficient and complex

- The complaints and disciplinary processes prescribed by the CPEng legislation mix two different functions – complaints resolution and professional accountability. The processes are onerous, inflexible, time consuming and, at times, not proportionate to the alleged breach of professional standards. The maximum fine of \$5000 is out of step with other professional disciplinary bodies and with our membership rules.
- The current appeals process (for both the registration and complaints/discipline processes) adds an additional layer of complexity and challenge to the CPEng system.

CPEng isn't inclusive to all engineering disciplines – and its relationship to Chartered Member is confusing

- CPEng is not perceived as relevant to engineers practising outside of the civil/structural space or no longer doing day-to-day design.
- The reassessment process is expensive and resource intensive. It creates a barrier for engineers who might be interested in Chartered status as a general mark of professional competence and peer recognition but don't need to be Chartered for any regulatory or certification purpose.
- Requiring New Zealand-specific practice, which would be appropriate in some disciplines and practice areas more than others, may restrict mutual recognition arrangements with other countries if it is an across-the-board requirement for all disciplines.

WE CAN ADDRESS MANY ISSUES WITHOUT CHANGING LEGISLATION

The RA can change its operational procedures and processes for assessments, re-assessments and complaints/disciplinary processes so they are more effective and proportionate – and some of the proposals in the document are about whether we should do this. With a mandate for change, we could go ahead and make these changes ourselves.

Some of the proposals in this document (such as auditing) will require changes to the Act and/or Rules. Overhauling CPEng will always be constrained by the legislative framework under which CPEng operates. With a case for change, the RA can change the CPEng Rules.² Changing the Act is a longer process. We can identify changes to the Act that might be helpful, but changing it is not within our direct control. Recognising this, we will maintain discussions with the Government, through MBIE, about opportunities to improve the legislative framework to support our work in making the system fit-for-purpose.

If, after consultation, we decide changes are needed to the Act, Engineering New Zealand will make a formal recommendation to MBIE that these changes be made. It would then be up to the Government to decide whether to implement them.

How to read our proposals

In this document, we have used a modified “traffic light” system to code our proposals. There is no “red light” because none of our proposals are impossible. But some will require buy-in from Government and amendments to the Act.

Green proposals	These are within our power to change now – no change to the CPEng Act or Rules, or other legislation, is needed.
Yellow proposals	These require changes to the CPEng Rules before they can be implemented. As the RA, we can lead that process.
Orange proposals	These require changes to the CPEng Act or Appeals Regulations, which would need to go through Government.

² Section 41 of the Act enables the RA to amend the CPEng Rules and sets out the procedure for doing so.

ANALYSIS AND PROPOSALS

MAKING CPENG FIT FOR PURPOSE

Introducing discipline-specific classes of CPEng

At the moment, even though each CPEng has a practice field (for example; structural, civil, mechanical etc), there is no standardised assessment for each field or discipline. The public cannot tell from an engineer's practice field whether they have been assessed as competent to undertake specific work.

If we raise the bar for specific disciplines, and work with relevant regulators and technical groups to develop standardised assessments for registration in those disciplines, the public could have greater assurance of an engineer's ability to perform high-risk work. BCAs and other regulators could rely on an engineer's CPEng registration in a specific discipline when determining who to accept certain types of engineering work from.

Discipline-specific assessments under the CPEng scheme could serve to identify engineers who have demonstrated the ability to undertake or sign off specific, high-risk work. They would be a class of CPEng and identified through a post nominal; for example, CPEng (Structural) or CPEng (Geotechnical) or CPEng (Fire).

CPEng without any class would remain and be all that was needed for many disciplines. However, if you were working in a discipline covered by its own class of CPEng, then regulators would be likely to require you held that specific class to sign things off.

Basing assessments for these discipline-specific classes on BOKS

Bodies of knowledge and skills (BOKS) make sure that all engineers in a particular discipline have a consistent set of baseline competencies.

To date, BOKS have not been universally adopted by the RA in the CPEng assessment process. The adoption, and further development, of BOKS provides opportunity for the standardised setting of minimum standards for CPEng assessment aligned with the development of specific classes of registration. We have already worked with some technical groups to create BOKS for specific disciplines; for example, structural, geotechnical and fire engineering.

An alternative to licensing?

We don't see these discipline-specific assessments as being limited to civil or structural work. For example, the RA could establish registration classes for dam design, or engineers engaged in heavy vehicle or amusement device certification work. Regulators and/or technical groups could also propose registration classes to the RA if there was an identified need in their industry.

If done right, we think registration classes with strengthened, standardised assessments could be a practical alternative to the licensing regime previously proposed by Government. It could be implemented relatively quickly on an existing, known and supported base framework.

Technical groups would provide critical input on where this line sits for their respective disciplines and how competence to practise above that line should be measured – we have deliberately avoided including this detail in this document as it needs to be worked through collaboratively with them.

Proposal 1

Create and develop registration classes for CPEng, with discipline-specific assessments, based on set criteria, in consultation with technical groups and regulators.

Proposal 2

Use bodies of knowledge and skills to set robust and consistent minimum standards for CPEng registration in specific disciplines.

RAISING THE BAR THROUGH BETTER ASSESSMENT PRACTICES

We can review the way we get evidence for assessment

A key criticism of the current assessment process is that much of the evidence provided for assessment is self-selected by the applicant. It is difficult for assessors to get a sense of whether selected work samples are truly representative examples of the engineer's work and overall competence, nor do they see the prior working and peer review that went into producing those examples.

Should evidence for assessment/reassessment be self-selected or should there be other sources and opportunities for information gathering? Should knowledge be further tested via on-the-spot technical assessment, for example, or by a written test or examination? We know there is strong support from some technical groups for an examination-style assessment, particularly in certain disciplines. We've also heard a call for greater scrutiny around referees and the quality of applicants' continuing professional development. We want to hear your views on this.

We can streamline the CPEng assessment process to achieve more efficient assessment timeframes

Another problem is the lack of a clear "cut-off" point during assessments. If a candidate has not satisfied an assessment panel that they meet the required standard, the burden of proof to decline the application tends to fall on the assessment panel, with candidates often expecting multiple opportunities to provide further information.

The RA's processes could be tightened so there are clear decision points and balanced arbitration opportunities.

Proposal 3

Set clearer processes and expectations around assessments to ensure a high standard of evidence, the right level of scrutiny of that evidence, and to reduce timeframes and clear confusion.

Proposal 4

Streamline the CPEng validation stage to avoid inefficiencies.

A strong pool of lead and practice area assessors

Lead assessors currently manage much of the CPEng assessment process. This often involves considerable administration and arbitration. This role is remunerated at a fixed rate that does not always reflect the number of hours spent on an assessment.

Practice area assessors are not remunerated, which can create recruitment issues for the RA. Selecting and retaining the right people for this role is critical. Providing appropriate remuneration to both lead and practice area assessors might allow the RA to better recruit and retain the most suitably qualified assessors. The voluntary nature of the relationship also limits the RA's ability to enforce clear service delivery expectations. We need checks and balances on assessors to ensure objective, consistent and robust decision-making. A thorough recruitment process with clear service delivery expectations (including conduct), a robust induction and training wrap-around programme, QA and ongoing training of assessors is needed to ensure a robust assessment system.

We know remunerating these positions may cause problems for some engineers working for firms with policies about 'outside work'. We are interested in feedback on this. If we do remunerate assessors, this cost would need to be reflected in the application fee.

Proposal 5

Reimburse practice area assessors (currently voluntary roles) to better reflect the importance of the practice area assessment, and create a strong wrap-around support framework including clear service expectations, induction, QA processes and ongoing development within the assessor role.

Should audits and practising certificates replace compulsory reassessment?

At the moment, the Rules require the RA to reassess each registered CPEng at least every six years, regardless of the level of risk associated with their work.³ This requirement even applies to engineers who fail to submit an application for continued registration, or submit an incomplete application that lacks sufficient information to assess their continued competence. Even if it's obvious that an application is inadequate, the RA cannot decline to proceed with the reassessment.

We know that many engineers value the reassessment process associated with CPEng, and see it as a critical part of a robust regulatory system. We agree there need to be mechanisms for checking in periodically on engineers' practice, to ensure standards are being maintained and that engineers are keeping up with developments in their field. This proposal is about strengthening these mechanisms, not removing them.

The reassessment process isn't delivering desired outcomes

Reassessments form a large proportion of the RA's workload. The volume of reassessment required has created considerable reassessment delays. Like the current CPEng assessment process, the reassessment process is rigid, cumbersome and time consuming. The existing reassessment process is based on information provided by the engineer, with limited opportunity to gather information from other sources, except for statements from (self-selected) referees.

³ This is to satisfy the requirements of section 11 of the Act (demonstration of current competence in professional engineering).

Of those reassessed, the vast majority (97 percent since 2015) are successful in maintaining their CPEng registration. This shows us that the burden of the reassessment process is not proportional to the risk it is managing. Conversely, there are high-profile failures associated with engineers holding current CPEng registration – reassessment is not adequately mitigating this risk.

Audit is a more common and potentially more effective way to manage risk

The CPEng reassessment process is an outlier among occupational regulation regimes, including professional self-regulation regimes. Most professions ensure current competence through annual practising certificates and registered professionals are audited for registration compliance at regular intervals (or at the discretion of the registering authority). The current cyclical reassessment process is also out of step with most overseas engineering regulation regimes.

As an example, doctors in New Zealand hold annual practising certificates and have their fitness to practise monitored by a combination of continuing professional development, peer reviews and audits of practice. This kind of regime promotes best practice – if professionals know their work may be audited or reviewed by their regulator at any time, they are motivated to maintain consistent standards.

If engineers' ongoing competence was assessed through an audit process that included wider powers to source evidence, it would be more robust. We think an audit-based system is preferable to asking engineers to go through a lengthy, burdensome reassessment process every 2-6 years, which actually tells us very little about their overall practice (since the evidence assessed is usually limited to a small handful of self-selected work samples). Auditing also allows the regulator to target attention where it is needed, and spend less time "checking in" on low-risk engineers.

How would an audit be triggered?

There are some options for how audits could be triggered and managed to ensure appropriate assurance of continued competence, for instance:

- Individual engineers could be audited, or audits could be conducted across entire firms, encompassing QA and document control processes.
- Audits could be randomly selected, or they could be triggered by information received about an engineer (for example, from the public or a BCA), or a combination of both. We would further develop this thinking, including what percentage would be audited, if this proposal proceeds.
- Audits could function as a high-level review of an engineer's competence and professionalism, with options to bring engineers in for more rigorous reassessment if an audit raises any concerns. Alternatively, an audit could be more in-depth, with auditors empowered to make recommendations or decisions on an engineer's continued registration.

This proposal is not about reducing the RA's workload. If the current reassessment system was fulfilling the intended goals of identifying poor practice and preventing risk to the public, the resource it requires would be worthwhile. What we are seeing is that the current reassessment process is not working and, in our view, these goals could be better achieved with an audit-based approach.

A shift from the current reassessment model to an audit-based approach would be more flexible and more robust. We know there are some who see regular reassessment as essential to the CPEng framework, but we need to act on the evidence we have – which has shown us that the current system is not adequately protecting the public nor serving the profession. The same outcomes that we strive to achieve through reassessment could be more effectively achieved through a robust and targeted audit process.

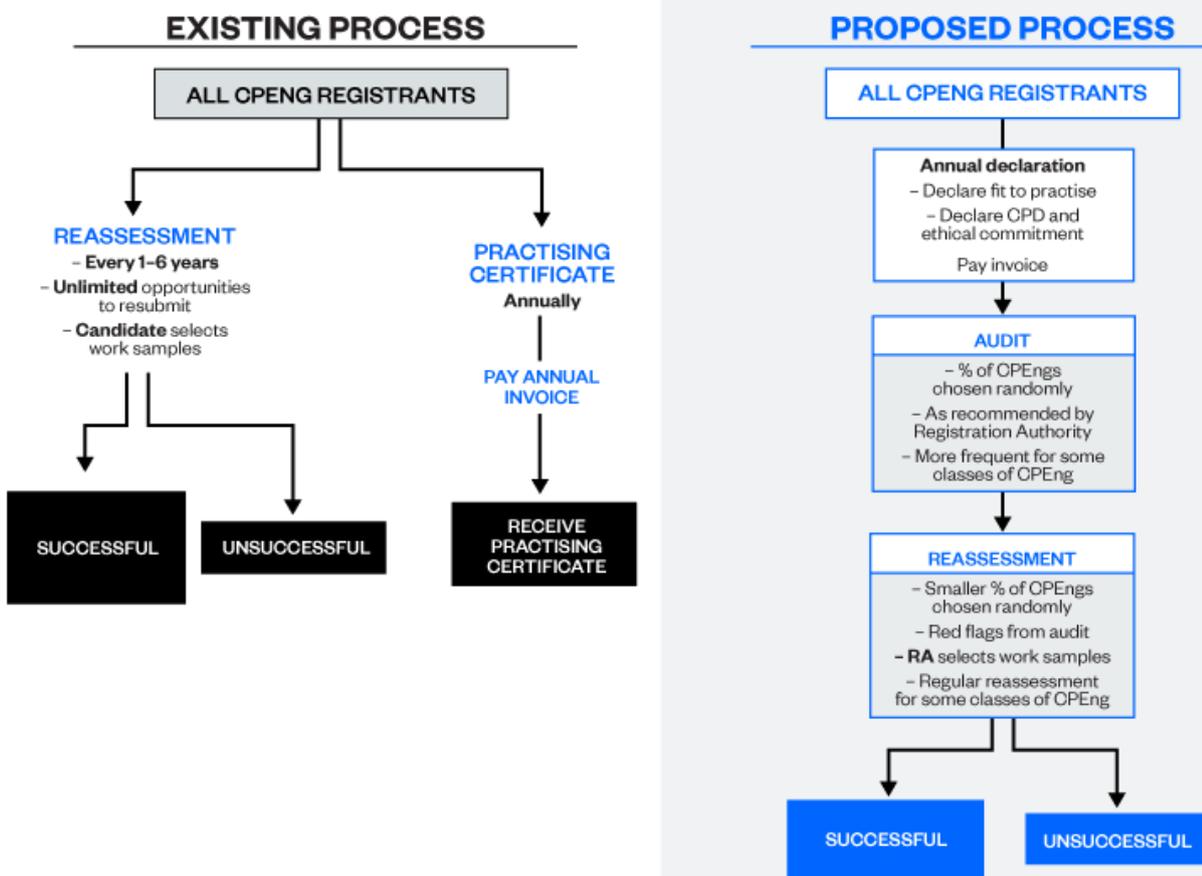
Example: Miriama is a CPEng working in the geotechnical field. The RA receives information about Miriama’s work that raises some questions about her ability to undertake certain work. Miriama is audited and, as part of that audit, her recent work in this area is reviewed. The audit reveals a need for further training and development in specific areas of Miriama’s practice. The RA works with Miriama to develop a plan for her to complete this professional development.

Example: John is a mechanical engineer and a heavy vehicle certifier for Waka Kotahi NZ Transport Agency. He is randomly selected by the RA for an audit. The auditor identifies a significant oversight in one of John’s recent projects and, on further investigation, identifies three other projects in which the same mistake has been made. In all four cases, John’s designs were reviewed and signed off by another engineer in the company, Paul. The error has potentially significant safety implications. The RA suspends John and Paul from the register pending further reassessment and investigation, and notifies Waka Kotahi of the concerns it has identified.

Adopting an annual practising certificate

Under the current model, engineers are issued an annual registration certificate, based solely on their payment of the annual fee. Reassessment and renewal of an engineer’s “term of current competence”, which is up to six years, is through a separate process, and timelines and processes can sometimes conflict and overlap. Shifting to an annual practising certificate could streamline this process and make it easier for the public and clients to understand and have confidence in.

Figure 2: CPEng reassessment



Proposal 6

Introduce annual practising certificates and a flexible model of reassessment/review based on an audit approach. Require that only those with active practising certificates can be on the register.

Proposal 7

Instead of automatic reassessment every six years (or less), reassessments are triggered by an RA audit, or information received from third parties (for example; Building Consent Authorities). Set clearer requirements around reassessments to reduce timeframes and clear confusion.

MAKING COMPLAINTS AND APPEALS MORE EFFICIENT AND EFFECTIVE

How can we better manage the risk of an individual to the system?

The RA has been criticised in the past for not effectively managing risks posed by poor performing engineers. There are several limitations on the RA's ability to do this under the current CPEng scheme.

The RA can only act on information that it possesses. Unlike in the health professions, there is no requirement for other agencies or employers to share information about unsafe CPEng engineers with the RA – and often engineering issues sit within confidential civil processes that the RA has no view of. For the RA to respond effectively to engineers whose practice poses a risk of harm, it needs to be notified of who those engineers are.

If the RA does receive information about engineers whose practice may pose a risk to the public, it has no powers to respond efficiently and effectively to that risk. The only mechanism in the CPEng Act is to proceed through a complaints and disciplinary process, which takes time, or to trigger a reassessment of the engineer's competence. Unlike other professional regulators, the RA has no power to manage any risk pending the outcome of either of those processes nor to notify other regulators who have a role in ensuring that engineer's practice does not harm the public.

An effective regulatory system would empower the RA to manage risk to protect the public, within appropriate safeguards to balance the rights of the engineer to practise their profession. We propose to bring the RA's powers to manage risk into line with other professions and Engineering New Zealand's Disciplinary Regulations, which now include powers to notify third parties where there is significant risk, and to suspend engineers pending an investigation (again, where there is a risk of harm).

Proposal 8

Introduce powers for the RA to manage risk with appropriate safeguards, including powers to receive and share serious risk information with other agencies, and to suspend or impose conditions on an engineer pending the outcome of an investigation or reassessment.

Do we need more power to hold engineers to account?

Alongside maintaining the CPEng register, the RA manages the CPEng complaints and disciplinary processes, as set out in the Act and the Rules. While we've taken a number of steps towards improving our processes and procedures, there are several limitations on the RA's ability to do more under the current CPEng scheme.

The process involves an initial investigation (following which the complaint may be dismissed), progression to formal investigation by an investigating committee and (for more serious complaints) progression to a disciplinary committee. Additionally, in 2017, the RA and Engineering New Zealand introduced an early resolution process that sits outside the formal process outlined in the Act and the Rules, and allows for low-level complaints to be resolved between the complainant and the engineer.

Streamline the process

The current formal complaints process, as outlined in the Rules, is rigid, administratively heavy and can include up to nine different decision-makers across a three-stage process. This affects the efficiency and responsiveness of the RA to complaints and competence concerns. It's hard for the public to understand that some complaints can take years to resolve as the complaint moves through this rigid three-stage process, and this harms the profession's reputation and credibility. Drawn-out complaints processes ultimately benefit no one.

Furthermore, the CPEng process mixes complaints resolution processes (processes driven by a complainant with the goal of resolving concerns to the complainant's satisfaction) with professional accountability (processes driven by a regulator with the goal of ensuring an engineer is practising to the required standard). The current processes do not effectively distinguish between those two roles, and impose a one-size-fits-all approach that is ultimately driven by the complainant, not the regulator.

Different complaints require different levels of response. For example, some complaints raise matters of professional accountability that require a response from the regulator for the protection of the public. Whereas others are low-level issues between the parties that should be resolved to build trust and confidence in the profession, but do not require a strong disciplinary response from the regulator.

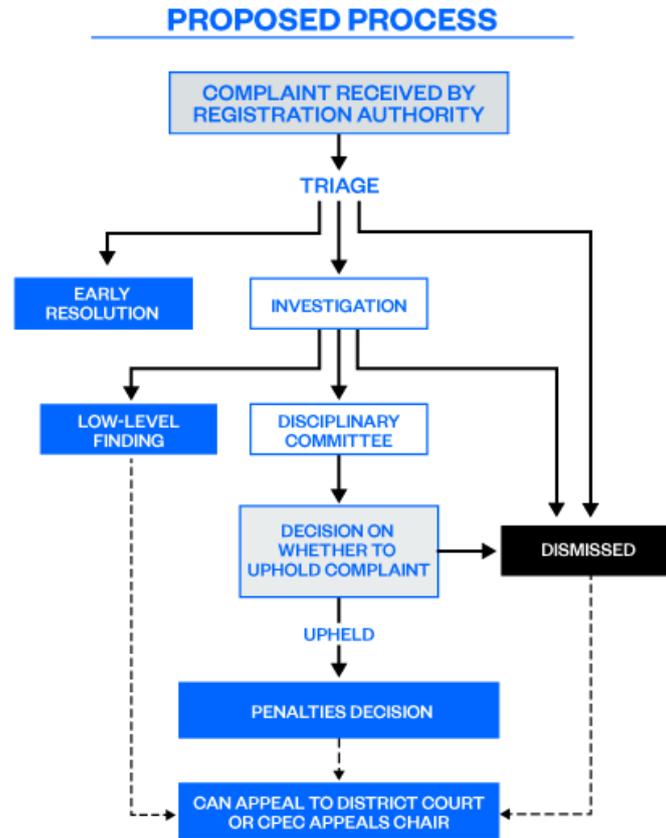
As with the CPEng assessment process, we propose the complaints and disciplinary process be further streamlined in the Rules. For example, if a complaint is low-level and does not require the regulator to respond from a professional accountability perspective, then the RA should have power to take no further action if it cannot be resolved through early resolution processes. And on the other hand, if a complaint is serious then the regulator should take the lead and drive the disciplinary process. This is what happens in other professional regulatory systems.

If a complaint is not appropriate for early resolution and needs a formal response from the regulator, then ideally that process should have no more than two stages – investigation (for example, by an investigating committee or professional conduct committee) and, if appropriate, a disciplinary process.

The current system is binary and requires an investigating committee to investigate and either (1) dismiss on the basis of narrow criteria for dismissal or (2) if no grounds to dismiss the complaint apply, refer it to a disciplinary committee. The investigating committee has no power to make a decision to resolve a complaint except by dismissal, and no power to make low-level findings on behaviour that is less than ideal but doesn't meet the disciplinary threshold. To achieve more proportional outcomes, these committees should have greater powers to make negative comment and educational recommendations on matters that

require a level of censure that's not at the level of a disciplinary response. This would be consistent with the investigating committees of other comparable professional regulators in New Zealand, which have powers to make low-level findings or negative comment. This means that the efforts of the regulator in leading a disciplinary response are reserved for where they really matter.

Figure 3: CPEng complaints and disciplinary process



Role of the complainant

The current CPEng complaints system is structured in an adversarial way, pitting complainant against respondent – much like a court process. While this may be appropriate for a complaints resolution regime (like a Commissioner or Ombudsman), it isn't a good fit with professional accountability. The process can be taxing and stressful for complainants, which can discourage the public and other engineers from raising serious competence concerns. Ideally, the Rules need to allow the RA to take the lead in any action against registrants (even where this action originates as a complaint from a member of the public). Making this change would again align CPEng with other professional regulatory processes where the regulator is responsible for laying a charge and driving disciplinary processes.

A strong pool of decision makers

Engineering New Zealand relies on volunteers to act as decision makers in the complaints and disciplinary process. Providing remuneration to engineers doing this work would appropriately reflect the time and effort involved, and ensure we can continue to attract engineers with the right experience and mana.

Most professional discipline bodies are chaired by a lawyer, or are required to have a lawyer as a member. There is no such requirement under the CPEng Act or Rules, or the Appeals Regulations, for disciplinary committees or appeal panels. In practice, Engineering New Zealand appoints a lawyer as a member of every disciplinary committee. We think this is important because disciplinary committees are quasi-judicial decision makers and have a responsibility to apply the principles of natural justice and administrative law in their decisions, which is a difficult ask for non-lawyers. If these principles are not applied correctly, with input from lawyers who have this technical expertise, there is a risk that decisions are made that won't withstand legal scrutiny, which undermines the whole system and exposes the RA to legal liability and/or expensive judicial review proceedings. We think it should be a requirement for both disciplinary committees and appeal panels to have at least one lawyer member.

Disciplinary penalties

If a CPEng engineer has a complaint upheld against them, the penalties available are out of step with other professional regulatory schemes and do not act as a sufficient deterrent. The penalties need to be reviewed and updated.

Proposal 9

Provide clear and appropriate pathways for managing complaints that require a professional accountability response as opposed to those that require a resolution response. This means giving the RA, rather than the complainant, control over how complaints are resolved.

Proposal 10

Give the RA power to make decisions on complaints at the right level proportional to the nature of the concerns raised, including taking no further action on a complaint if it is not resolved by early resolution, and powers for an investigating committee to make low-level findings and recommendations, leaving disciplinary committees free to consider serious misconduct cases.

Proposal 11

Reimburse members of investigating committees and disciplinary committees (currently voluntary roles) to reflect the importance of the complaints and disciplinary process, and to ensure we can continue to attract the right calibre of decision-makers.

Proposal 12

Introduce more stringent disciplinary penalties that are in step with other professional regulatory schemes and that act as a sufficient deterrent.

Proposal 13

Require every disciplinary committee and appeal panel to have at least one lawyer as a member.

Is there a better way to manage appeals?

Decision-maker expertise

As set out in the Act, CPEC presides over appeals. The two functions of CPEC (oversight and hearing appeals) are remarkably different and utilise different skills and expertise. Appeals are a quasi-judicial process, and a strong understanding of the principles and application of administrative law and the law of professional regulation is required to ensure fair, robust and credible outcomes. This is why many professional tribunals are chaired by a very experienced lawyer.

In other professional regulatory systems, including architects, health professionals and lawyers, appeals against the regulator's decisions go straight to the District Court. This is in recognition of the specialised nature of decision-making on matters balancing the protection of the public against the rights of a professional to practise their profession. We are unique in having our oversight body hearing appeals, and with no requirement for that appeal body to have a lawyer involved.

The RA has concerns about CPEC, as an oversight body, also acting in the role of an appeals body. Appeals are growing in complexity and are increasingly more legalistic in nature. For this reason, we think appeals should go straight to the District Court, which has the experience and expertise to navigate the often-complex legal issues relating to appeals of RA decisions. Having CPEC act as an intermediary appeals body between the RA and the District Court is not an effective use of the profession's resources and affects the credibility of the CPEng process.

To ensure appeal decisions that build credibility and withstand legal scrutiny, the RA recommends the Act be amended so that appeals of RA decisions go directly to the District Court.

In the alternative, or as an interim measure, we propose an amendment to the Rules to designate a standing Appeals Chair within CPEC – preferably an experienced lawyer, as in other tribunals – to preside over appeals. This designated Chair (or Chairs) would have delegated authority to chair appeal panels consisting of appropriately skilled representatives, including a lawyer experienced in professional regulation and/or administrative law. We think having a consistent Chair (or alternate Chairs) across all RA appeals would increase consistency and promote more robust decision-making.

Points at which a decision can be appealed

Under the current CPEng system, any decision on a complaint or competence assessment can be appealed. This includes process decisions such as a decision to refer a complaint to an investigating committee. For instance, an engineer can appeal a decision by an adjudicator to refer a complaint to an investigating committee – even though no substantive decision on the merits of the complaint has been made.

This can cause long and drawn out processes where parties can appeal at any point in the process, creating inefficiencies and ambiguity. Appeals need to be confined to merits of final decisions (not procedural ones). Any issues with process that arise before a final decision has been made can be raised directly with the RA.

Fees

The ability to appeal a disciplinary decision is an important right in a quasi-judicial process like professional regulation. However, in most disciplinary appeal processes fees are paid by those appealing. Fees, even relatively minor fees, act as an appropriate deterrent in cases where there is a low prospect of the appeal succeeding. They also support the recovery of some of the expense incurred in the appeals process. There is currently no fee for appealing a decision of the RA. This means the process can be open to abuse even where there is a low prospect of success; for example, appealing to delay the outcomes of a disciplinary decision. It also means that the profession bears a significant cost of the appeal process.

If CPEC is to remain the appeal body for RA decisions, we would recommend introducing fees for appeals to CPEC. This may encourage parties to consider the merits of appealing and disincentivise appeals where there is no realistic prospect of success.

Proposal 14

Appeals of RA decisions should proceed directly to the District Court, instead of to CPEC.

Proposal 15

Limit the right of appeal to final decisions by the RA.

Proposal 16

Introduce appeal fees (refundable if an appeal is successful) to cover some of the expense incurred through the appeals process.

FIXING THE RELATIONSHIP BETWEEN CPENG AND MEMBERSHIP

There is confusion between CPEng and Engineering New Zealand's Chartered Membership class

At present there are two separate but closely related Chartered regimes for engineers in New Zealand (CPEng and Chartered Membership of Engineering New Zealand (CMEngNZ)). CMEngNZ is a membership class derived from the previous Institution of Professional Engineers New Zealand's "Professional Member" membership class. In 2017, it was renamed Chartered Member in anticipation that the Government would repeal CPEng and replace it with licensing (which obviously has not happened).

Both CPEng and CMEngNZ applicants are assessed on their engineering knowledge, their ability to manage engineering work, professional acumen and developing technical solutions. They are both required to agree to a Code of Ethical Conduct. CPEng provides recognition for professional engineers (defined internationally in terms of an ability to solve complex engineering problems and manage complex engineering activities), whereas categories for Chartered Membership also recognise Engineering Technologists, Engineering Technicians and Engineering Geologists. Unlike CPEng, there are no reassessments for CMEngNZ, although Chartered Members are required to undertake 40 hours of professional development per year. In this respect, Chartered Membership is more consistent than CPEng with equivalent chartered engineering labels internationally.

Engineering New Zealand has observed considerable confusion between the two quality marks, which were never intended to coexist long term. Our vision is to have an unambiguous Chartered mark that engineering professionals in each engineering occupational group can aspire to. We anticipated this would be Chartered Engineer, a membership class of Engineering New Zealand – underpinning a licensing regime for safety critical engineering work.

If CPEng became the quality mark for professional engineers, then we would need to consider:

- Professional engineers who aspire to have their competence recognised with a quality mark but who traditionally haven't been able to justify the effort or expense associated with regular re-assessment, which means they see CPEng registration as irrelevant.
- Engineering Technologists, Engineering Technicians and Engineering Geologists who have been able to gain recognition of their engineering competence through categories of Chartered Membership, but who are not currently able to be recognised through the CPEng register. We need a way to recognise these engineering professionals through a complementary and unambiguous Chartered mark that removes the current confusion created through Chartered Membership.
- How to provide appropriate mutual recognition in support of engineers' international mobility.
- How to accommodate senior engineers in leadership roles who have moved away from technical engineering design or problem solving. This might include managing a transition for members who are currently CMEngNZ across to CPEng.

It isn't yet clear to us how CPEng should sit alongside Engineering New Zealand's membership pathway, and whether the Chartered Member class should continue in some form, or be dis-established. We know the current system is confusing. We also know we need to continue to provide a quality mark for our Engineering Technologists, Engineering Technicians and Engineering Geologists – one that is not easily confused with CPEng. One way to do this could be to establish separate registers for these engineering professionals, similar to those that existed pre-2017. If we did that, a separate Chartered Member class may not be necessary.

We are interested to understand whether the profession thinks a new and improved CPEng could be the only quality mark for professional engineers, alongside complementary new quality mark registers for technologists, technicians and engineering geologists, and whether on this basis the member class of Chartered Member should be renamed or dis-established.

We need your feedback to inform how we would resolve the current tension and confusion between CPEng and Chartered Member in a way that moves us towards our vision. One thing we are clear on is that we do not want to "demote" or downgrade the status of members who are currently Chartered Members but not CPEng. Any changes to Engineering New Zealand's membership pathway would need to be carefully managed to avoid this from happening. Depending on your feedback on CPEng, we'd develop more concrete proposals for how we could align our membership pathway and any other registers to achieve our vision – and we would discuss that with our members.

Proposal 17

Make CPEng sufficiently inclusive so that professional engineers from all disciplines can aspire to this quality mark.

Should CPEng registration be connected to Engineering New Zealand membership?

More than 95 per cent of engineers with CPEng are also members of Engineering New Zealand. Membership of Engineering New Zealand supports CPEng and ultimately builds a strong profession. Professional bodies support improvements within industries and within the profession, for the public good. They also connect members to their profession, which facilitates information sharing as well as learning and development. In many professional regulatory schemes, membership is intrinsically connected to registration (for example, Chartered Accountants, lawyers, and medical professionals).

If we focus on CPEng as the quality mark, we need to be careful not to undermine the role and place of the professional body in supporting and enabling overall engineering competence. Connecting the two would reduce this risk.

At present, annual CPEng registration fees are separated from Engineering New Zealand membership fees. There is opportunity to combine CPEng registration with Engineering New Zealand membership, with an opt-out process for those who wish to retain CPEng but not Engineering New Zealand membership. This would decrease administration for engineers holding both CPEng and membership of Engineering New Zealand (and their employers), and also strengthen the connection between membership and CPEng.

Proposal 18

Include membership to Engineering New Zealand with annual CPEng registration (with opt-out processes for those who wish to retain CPEng but not Engineering New Zealand membership).

NEXT STEPS

This discussion document outlines the recommendations of the RA and Engineering New Zealand to overhaul the CPEng system, based on the feedback received and work done to date to improve the system and respond to Government's occupational regulation proposals. As we look to take the lead on changing CPEng, we are seeking your feedback on our proposals. If our CPEng engineers and membership support these concepts, then we would look to operationalise them as quickly as possible, recognising that the profession wants to see change rather than endless consultation.

We would like to receive your feedback on this proposal by 20 January 2021. To share feedback, please [fill in our survey](#) or simply send an email to hello@engineeringnz.org

Following receipt of your feedback, we will compile submissions and amend the recommendations of the proposal, as required. We will provide details on next steps to you, after they are approved by the RA Governing Board.

Should part or all of this proposal proceed, we would assess priorities and workstreams to address the different improvement activities, involving technical groups as relevant. This would include how to manage any transition from the current regime to the proposed regime. For any Rule changes, we would draft updated Rules for further consultation with CPEC, MBIE, Chartered Professional Engineers and Engineering New Zealand members. We would also make sure members and key stakeholders are kept up to date, have clear opportunities to provide feedback and understand how any proposed changes might affect them. We would communicate any changes to industry and the public to ensure everyone understands the new regulatory framework, and to build trust and confidence in the system – recognising that explaining and marketing it to regulators and clients would be a critical part of its success.