

CPEC

Chartered Professional Engineers Council
Kāhui Kaiwetepanga Ngaio Whaimana

Report on the Performance of the Registration Authority

2021

FOR THE PERIOD 1 JANUARY 2021 - 31 DECEMBER 2021

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1 INTRODUCTION

This report is the assessment by the Chartered Professional Engineers Council (the Council) of the Registration Authority's (RA) performance and exercise of its functions and powers pursuant to Section 53 of the Chartered Professional Engineers of New Zealand Act 2002 ('the Act'), for the period 1 January to 31 December 2021.

The RA is the Institution of Professional Engineers New Zealand Incorporated, trading as Engineering New Zealand Te Ao Rangahau.

The RA's functions are set down in section 39 of the Act and include to:

- (a) make, and always have, rules relating to chartered professional engineers, prepared and approved in accordance with the Act;
- (b) register persons, issue registration certificates, assess continued registration;
- (c) keep and maintain the register of chartered professional engineers;
- (d) receive, investigate, and hear complaints about, inquire into the conduct of, and discipline chartered professional engineers in accordance with the Act.

Section 52 of the Act requires the RA to report to the Council on the operations of the RA and the chartered professional engineer register for a 12-month period ending on the preceding 31 December.

As part of its review and appeal functions under section 45 of the Act, the Council continues to invite the RA to each quarterly Council meeting to:

- present and discuss reports on assessments and complaints,
- monitor the time taken for the hearing of complaints,
- consider the outcomes of appeals,
- maintain dialogue on the Act and Rules, regarding their efficiency, appropriateness and scope for amendment.

2 REGISTRATION AUTHORITY'S ANNUAL REPORT

The RA has provided the Council with its annual report for the period 1 January to 31 December 2021. The report provides both quantitative and qualitative information on activities performed by the RA and records the work undertaken by the RA in fulfilling its obligations under the Act.

A copy of the RA's 2021 annual report is submitted to the Minister with this report and provides commentary and information on the following topics:

- **Overview:** Commentary of the system review; key activities; highlights of the reporting year; challenges; and key statistics.
- **CPEng Review:** Completion of a review of the current CPEng assessment processes; consequent appointment of a separate CPEng Board; identification of a range of improvement opportunities; and stated focus for 2022 being on the implementation of the identified improvement opportunities.
- **Strategic Priorities for 2022:** Implementation of findings of the CPEng review; review of CPEng registration fees and charges; working with MBIE on refinement of proposed changes to occupational regulation of engineers; addressing current resourcing constraints and re-

assessment backlog; increasing the systemisation of the assessment process; and developing a framework for registration of Recognised Engineers within the Dam Safety regulations.

- **Competence Assessment:** Strong interest in initial assessment for registration; information workshops and reintroduction of assessment rounds for initial applications; RA's response to a backlog of reassessment applications for continued registration: status and implications of dam safety regulations and attendant registration for Recognised Engineers; updated findings from the registration candidate survey; Competency Assessment Board membership; Assessor numbers and workload.
- **Register/Assessment Trends:** Year on year key registration statistics, assessment processing times and pass rates; age and gender breakdown; Te Ao Māori progress; engineering practice field data and geographical distribution of registrants.
- **Complaints and Disciplinary Activity:** The combined challenges of disruptions due to the pandemic and a high number of complex complaints; improvement of processes involved in disciplinary hearings being held by videoconference; a spike in the number of complaints appealed to CPEC; enquiries relating to people allegedly holding themselves out to be or signing off work as a CPEng; and commentary on the conclusion of the Masterton Buildings Inquiry which commenced in 2016.
- **Complaints Snapshot:** Statistics on concerns and complaints received and closed; the manner of resolution of complaints; duration of complaints; decision maker capacity; themes and trends including key issues from files closed; practice fields; appeals to CPEC; learning from complaints; Own Motion Inquiry (Masterton Buildings) and systems report; and concluding comments on the Greater Christchurch Claims Resolution Service (GCCRS).
- **Case Studies:** Three case studies showing how complaints are being processed, including a case upheld by a disciplinary committee, a case dismissed by an investigating committee and a case resolved through the process of early resolution.
- **Financials:** Summary of fees for 2021 which have remained unchanged since 2015 (Appendix 1) and summary of fee income and costs incurred with notes (Appendix 2), indicating a growing deficit.

3 REPORTING REQUIRED BY THE ACT

The RA's reporting requirements are set out in section 52(2) of the Act and the responses are summarised below.

- (a) the number of chartered professional engineers at the end of the 12-month period (**4251**); and
- (b) the number of persons whom the RA registered (**421**)¹ and the number whom the RA declined to register (**25**) during the 12-month period; and
- (c) the number of persons whose registration was removed (**89**), suspended (**92**) or placed in abeyance (**42**) during the 12-month period; and
- (d) the number of persons against whom the RA made a disciplinary order (**8**) during the 12-month period; and
- (e) the amount of the charge or charges payable in relation to registration or the issue of a registration certificate (**no change**) during the 12-month period; and

¹ First registered only

- (f) any other information that the Council reasonably requires. This includes regular reporting on progress towards increased numbers of female CPEng registrants, and progress towards resolution of the RA's accumulated financial deficit.

The RA's report addresses the requirements of section 52(2) (a) to (c) under Register Trends, (d) under Complaints Snapshot and (e) in Appendix 1 & 2.

4 RULES FOR CPEng STANDARDS

No changes were made to the Chartered Professional Engineers Rules in 2021.

5 THE COMPETENCE ASSESSMENT PROCESS

Initial Registrations

During the year, 446 initial registrations were processed, 421 approved and 25 declined. The number processed represents a 6% increase on the previous year's assessments. The average time for initial assessments has increased to 116 days, a 15% increase on 2020. While this figure is 38% higher than the 84-day target, it remains below the historical peak of 120 days recorded in 2019. The report notes applicant attendance of information workshops, and the reintroduction of assessment rounds has helped applicants determine when they need to complete their portfolio submissions as well as assisting in the allocation of assessors. Applications scheduled at the end of 2021 indicate a continuation of strong demand in 2022 and it is reasonable to conclude that this will maintain pressure on assessors.

Mutual Recognition

36 successful applications for CPEng were assessed under mutual recognition schemes. The jurisdictions of the applicants have not been provided in this report. This total number represents a 16% increase on 2020 numbers.

Continuing Registrations

During the year, 461 applications for assessment for continuing registration were processed, a decrease of 21% from the previous year. 2021 commenced with the carryover of backlog from 2020 and in response the RA reports having refined their procedures to improve efficiency. 280 structural reassessments were carried over from 2021 and the stated key priority of the RA is to clear the backlog by the end of 2022. Work continues on the integration of a risk-based approach to address the reliance on the limited capacity of the volunteers engaged to carry out assessments. Following the success of scheduling initial assessment cohorts, the RA intends moving to a cohort/caseload arrangement for all 2022 reassessments.

Registration of Recognised Engineers – Dam Safety

In March 2021 Cabinet approved a set of policy decisions to increase the safety of New Zealand dams. This included a definition of the Recognised Engineer. Once the proposed regulations have been finalised the RA will work with MBIE and NZSOLD to determine the cost and work involved in implementing them. It is expected that the regulations will be approved by Cabinet in 2022 and will come into force two years after that.

Candidate Satisfaction

All candidates for assessment are invited to complete a 15-question survey. The results for 2021 show overall satisfaction with the process and the relative importance of CPEng to applicants. Levels of satisfaction indicated in 2021 are broadly consistent with previous years. It is noted that the survey response is a relatively low 10%.

Assessors

Assessor capacity continues to be a major challenge. Although there was a reported increase in Practice Area Assessor numbers from 448 to 464 (4%), contract lead assessors dropped by one to 23 and staff lead assessors dropped from 3 to 2 in 2021. In view of projected solid assessment demand, the RA has noted it will be addressing the recruitment of additional Lead and Practice Area Assessors and refresher training for current Practice Area Assessors in 2022.

The Year Ahead

The RA has identified two key areas amongst its strategic priorities for 2022:

- Addressing current assessment resourcing constraints and associated backlog of re-assessments, and
- Increasing the systemisation of assessment process and procedures with the CRM system.

6 REGISTER TRENDS

The RA's report provides quantitative information and commentary on the trending number of CPEng registrants, age distribution, gender breakdown, fields of engineering practice and geographical distribution of registrants and this year adds commentary on Te Ao Māori and the engineering profession.

Assessment Processing Times

Assessment processing times are presented in Table 2 for 2021 and the previous four years. These figures are discussed in Section 5 above.

Assessment Pass Rates

The assessment pass rate for initial admission remains relatively high at 95%, the same as last year and a little lower than the previous three years. It is noted that this figure is expressed in terms of validated assessments. This means that when account is taken of assessments which are withdrawn because they are deemed insufficient, or the applicant has been advised to submit at a later date in order to benefit from more time in the professional environment, the effective pass rate is lower.

Growth in Registrant Numbers

The number of CPEng registrants continues to increase and in 2021, the annual rate of increase of 6% was significantly greater than the previous three years when annual growth varied between 2.6% and 4.7%.

Age Distribution and Gender

In Figure 7 the RA have indicated the breakdown of CPEng registrants by age for 2021 and the previous four years. A downward trend is evident in the 24-39 year age bracket while a slight upward trend is indicated in both the 40-59 year and 60-69 year age brackets. The 70-89 year age bracket fluctuates around 4% with no clear trend indicated. There is merit in exploring and understanding the reasons for the downward trend in the youngest age bracket, with the potential to arrest the trend and also to have a positive impact on total registrant numbers in the coming years. The Council will engage with the RA on this.

The RA rightly continues to regard increased representation of women in engineering as a critical issue. In 2018 a goal was established to increase the number of women on the register by 20% by 2021. That translated to a target number of 400, which was surpassed in 2020 with 412 women on the register. By the end of 2021, the total had risen to 467 women. Of particular note, is that women now represent 11% of engineers on the register, the highest proportion reported to date. Clearly it is important that this growth continue.

The Diversity Agenda, which has over 160 firms committed to driving change was enhanced in 2020 by the launch of the Diversity Agenda Accord drawing formal commitments from Chief Executives and business owners to diversity objectives and targets. The RA is working on capturing statistics around engineers who identify as non-binary in 2021. The RA reports that work on the Engineering New Zealand's Diversity Agenda and Accord helps with the achievement of wider targets for diversity, referring to the Innovative Schools programme focussing on young people, particularly girls, Māori and Pasifika to alter perceptions about STEM subjects.

Māori Representation and Te Ao Māori

The RA notes that Māori are underrepresented in the profession with data held indicating that only 0.3% of CPEng registrants are Māori. Reference is made to the 2018 census, which indicates that while Māori represented 16.5% of the population, 7% of engineers identify as Māori. The RA notes the commitment made to embed Te Ao Māori and Mātauranga Māori within the engineering profession, anticipating that engagement and relationship building will support the interconnection of engineers, and noting further that support networks and the incorporation of Mātauranga Māori in engineering practice should foster greater connection within Māori engineering communities and between Māori and the wider profession.

Practice Fields

The three fields of engineering practice with the greatest numbers continue to be Civil, Structural and Management, although since 2020 Structural has replaced Civil as the largest group. Reductions have been recorded in the fields of Civil (6%), Management (16%) and Environmental (18%) in the reporting year. Offsetting this has been a marked increase in numbers in Water Engineering (162%). The RA attributes this to Water Engineering being a desirable skill in light of the Three Waters reforms.

Geographic Distribution

The geographical distribution of CPEng registrants continues to be dominated by Auckland at 38%, followed by Canterbury at 17% and Wellington at 11%. In 2020 5.4% of registrants were reported as non-members of EngNZ. That group has dropped to 3.7% over the reporting year.

7 COMPLAINTS & DISCIPLINARY ACTIVITY

As a result of disruptions caused by the pandemic continuing into in 2021, the RA have continued the use of videoconferencing to manage their complaints case load. They note that this is well accepted by the parties. They continued to refine the process, including the use of hybrid hearings where the Disciplinary Committee convened in Wellington and the parties appeared via videoconference.

This year saw an increase in the number of respondent engineers, at the disciplinary stage accepting the Investigating Committee's established grounds for discipline, making it possible to proceed directly to penalty without the need for a hearing and thus reducing costs to the profession.

The RA noted also having received a number of enquiries relating to people who were allegedly holding themselves out to be CPEng registered or signing off work as a CPEng registered engineer. Those enquiries were forwarded to MBIE for potential prosecution.

The Masterton Buildings Enquiry, which had commenced in 2016 concluded in 2021 and the related disciplinary decisions were published on Engineering New Zealand's website. The findings will be used to inform work to improve the CPEng system, including consideration of issues facing the structural engineering sector and identifying areas where additional CPD or engineering advice may be targeted,

The RA has presented three new case studies to demonstrate how they are being resolved through the complaints process, promoting the approach of working with the parties to achieve resolution that is proportional and fair, which in turn helps rebuild trust and confidence in the profession. The case studies address early resolution, a complaint dismissed by an Investigating Committee and a complaint upheld by a Disciplinary Committee.

8 COMPLAINTS STATISTICS AND TRENDS

Concerns and Complaints Received

The number of concerns received by the RA in 2021 was 32. This was 12 fewer than in 2020 and 9 fewer than 2019. The majority of concerns and complaints come from engineers' private clients, but a steady number are being received from building consent authorities and other engineers.

Concerns / Complaints Closed

46 concerns and complaints about chartered professional engineers were closed in 2021, 12 more than in 2020. The RA attributes this to process improvements and the addition of another legal advisor to the complaints team. The number of files closed included a number carried over from 2020.

Table 5 in the RA's report illustrates for 2021 and the three previous reporting years, the numbers of cases resolved by either early resolution, dismissal by an Adjudicator, dismissal by an Investigating Committee or dismissal / upholding by a Disciplinary Committee. In 2021, 17 cases were resolved by early resolution, 16 dismissed by an Adjudicator, 4 dismissed by an Investigating Committee and 9 upheld by a Disciplinary Committee. The Council acknowledges the continuing positive impact of the RA's early resolution process.

Of the 8 Disciplinary Committee decisions upheld in 2021, 5 were in relation to the longstanding Masterton Buildings Inquiry.

At the end of 2021, 5 complaints were being considered by Disciplinary Committees and 7 by Investigating Committees.

There was a higher than usual number of disciplinary appeals to CPEC during 2021 with 12 appeals received by the Council. Only one appeal was upheld out of the seven that were heard.

Themes and Trends

As in previous years competency related issues have been the most common source of complaints, with a significant number also arising from concerns regarding professionalism and ethical conduct.

Engineers in the structural practice field continue to be the subject of the majority of complaints. The RA considers that rather than being indicative of the quality of engineers practising, this reflects the fact that structural engineers more often have direct contact with their clients who are typically members of the public.

The RA's legal team continues to include a column in Engineering New Zealand's quarterly *EG* magazine as well as contributing to Engineering New Zealand's newsletter *Discover* and has observed that articles regarding complaints and disciplinary decisions consistently attract high readership figures.

Duration of Complaints

At the start of 2021 the RA had 54 open files but closed 46 during 2021, bringing the number of open files down to 43 by year-end. In 2021 the complaints team reversed the trend of the previous three years of closing fewer files than the number of new files received each year. There is continuing focus on process improvement around how the RA engages with parties during investigations, the aim being to avoid lengthy delays.

On average, in 2021, concerns closed through early resolution took 8 months whereas complaints proceeding through the formal process to a disciplinary committee took 18 months to resolve.

Decision Maker Capability

The availability of decision makers is a factor which contributes to the time taken for a complaint to be addressed. The RA has been working to increase the number of members available to sit on committees, the intention being for at least some to become chairs. A further challenge is that all decision makers are voluntary positions.

9 OTHER CPEng RELATED ACTIVITIES

CPEng Review

With the implementation of Government-driven changes to the regulatory model still likely to be several years away, the RA sees its own internal review of the current CPEng model as a means of maintaining a robust and unambiguous framework that works for engineering professionals and the public. A key outcome from the review, which was completed in 2021, was to establish a separate CPEng Board focussed on the Registration Authority function. The new board was appointed in December 2021.

The CPEng assessment and reassessment protocols and processes have been documented and improvement opportunities identified. Two key factors that will guide on-going work are fitness for purpose and a proportionate-to-risk methodology. The RA's focus will shift in 2022 to implementation of improvement opportunities, which include:

- Improved guidance for candidates and assessors,
- Increasing moderation/audit processes for Lead Assessors,
- Consolidation of existing documentation,
- Introduction of specific CPEng assessments for some disciplines incorporating assessment against Bodies of Knowledge and Skills – a measure which is seen as supporting any transition to a licensing regime,
- A move from standardised periodic reassessment for all to targeted, risk-based reassessment.

The Council has engaged with the RA and MBIE as the review process advanced and this will continue as the proposed process improvements progress to implementation.

Own Motion Enquiry and Systems Report

The Own Motion Inquiry which commenced in 2016, concluded in 2021 with two engineers being censured and/or fined in relation to the engineering design of six buildings in Masterton. These decisions have been published on the RA's website.

As well as investigating the engineers responsible for design of the buildings involved, the inquiry highlighted a number of issues relating to the system within which engineers work. The RA is developing a report to help understand the issues and, importantly, address what can be done to avoid mistakes being repeated. Expert input is being sought to ensure that the report's recommendations are practical, realistic and impactful. The RA expects the report to be published in the first half of 2022.

The Council acknowledges the RA's commitment to ensuring that lessons learnt from the enquiry are used to drive positive change.

The Greater Christchurch Claims Resolution Service and Canterbury Earthquakes Insurance Tribunal

The Greater Christchurch Claims Resolution Service (GCCRS) has been operating since October 2018. It involved the establishment of an expert engineering panel of CPEng registered engineers to assist with GCCRS and Canterbury Earthquake Insurance Tribunal matters. The RA notes that the service is due to conclude in 2022 with the establishment of a new national service.

10 THE COUNCIL'S PERSPECTIVE ON THE REGISTRATION AUTHORITY'S PERFORMANCE

The Council considers that the RA continues to perform well in the following areas:

- Maintaining a robust competency assessment and re-assessment process, and committing to changes aimed at maximising efficiency and effectiveness;
- Applying feedback, from consultation processes, the complaints process, and registration candidate surveys, to improve processes;
- The continuing increase in the total number of chartered professional engineers (**4251**), an increase of 6% (241) since the last period;
- Continuing initiatives to achieve inclusion and diversity goals, highlighted in 2021 by further material gains in the percentage of female registrants, and the Kimihia Rangahaua strategy;
- Ongoing initiatives to refine and streamline the complaints process, with demonstrable benefits flowing from the early resolution of a significant proportion of concerns/complaints;
- The provision of the expert engineering panel in support of the GCCRS and CEIT, set to conclude in 2022.

The Council considers that the primary issues facing the RA are generally in line with previous years. The Council will continue to work with the RA in the pursuit of positive outcomes in the following areas:

- Implementation of improvements that flow from the now complete CPEng Review. The Council will continue to work closely with the RA and with MBIE in the development of both the shorter-term improvements from the CPEng Review and longer-term measures that will ultimately be incorporated in new legislation / regulations that govern the profession.
- Stable and sustainable assessment capability achieved through a reduction in processing times for CPEng assessments, supported by regular and effective forecasting of demand and availability of trained assessors and lead assessors. The Council and the RA continue to discuss this at least on a quarterly basis. The Council acknowledges the RA's dependence on volunteer inputs and notes that the clearance of backlogs and reduction in assessment times will be very challenging goals to achieve.
- Continuing to keep Engineering New Zealand members and CPEng registrants up to date with progress regarding the status of, and differences between, the Chartered Member and CPEng quality marks, especially in view of consultation documents in circulation regarding reforms affecting the profession.

- Planning to manage the increasing and significant financial deficit, prioritising and scheduling specific actions and tracking progress. Accounting policy changes, taken up in 2021 and relating to software, along with a further increase in deficit in 2021 mean that the accumulated deficit is now \$2,166,740. The matter continues to be addressed at regular council meetings. The Council notes that one of the RA's strategic priorities for 2022 is a review of fees and charges and sees this as a necessary first step towards addressing the deficit issue. As noted previously, the RA's deficit is ultimately a matter for Engineering New Zealand Te Ao Rangahau's Board to resolve.

11 SUMMARY

The Council acknowledges the RA's clear commitment to the implementation of improvements, noting the continuing positive impact of early resolution measures on the processing of concerns and complaints and the commitment to addressing assessment capability and processes.

The Council welcomes the 2021 establishment of the Chartered Professional Engineers Board noting that it provides the maximum level of autonomy and independence from the Engineering New Zealand Te Ao Rangahau Board, within the constraints of the current Act and Regulations.

It is also pleasing to see a continuation in the growth of CPEng registrants as well as the growing number and percentage of women on the register.

Kimihia Rangahaua, the RA's strategy to embrace Te Ao Māori is a further sign that the RA is building on its already established commitment to enhancing diversity in and around the profession.

The Council will continue to engage with the RA regarding assessment capacity and the implementation process refinements that flow from the CPEng review, seeking to support measures which maximise efficiency and effectiveness of the assessment process in the transition to an ultimately new regulatory environment for engineers.

The Council continues to value its strong relationship with the RA, where frank yet constructive engagement is the norm.

Dated: 30 June 2022



Chris J Harrison

Chair

Council members:

Sandra Hardie (Deputy Chair)

Manjit Devgun

Tony Fairclough

Megan Neill

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