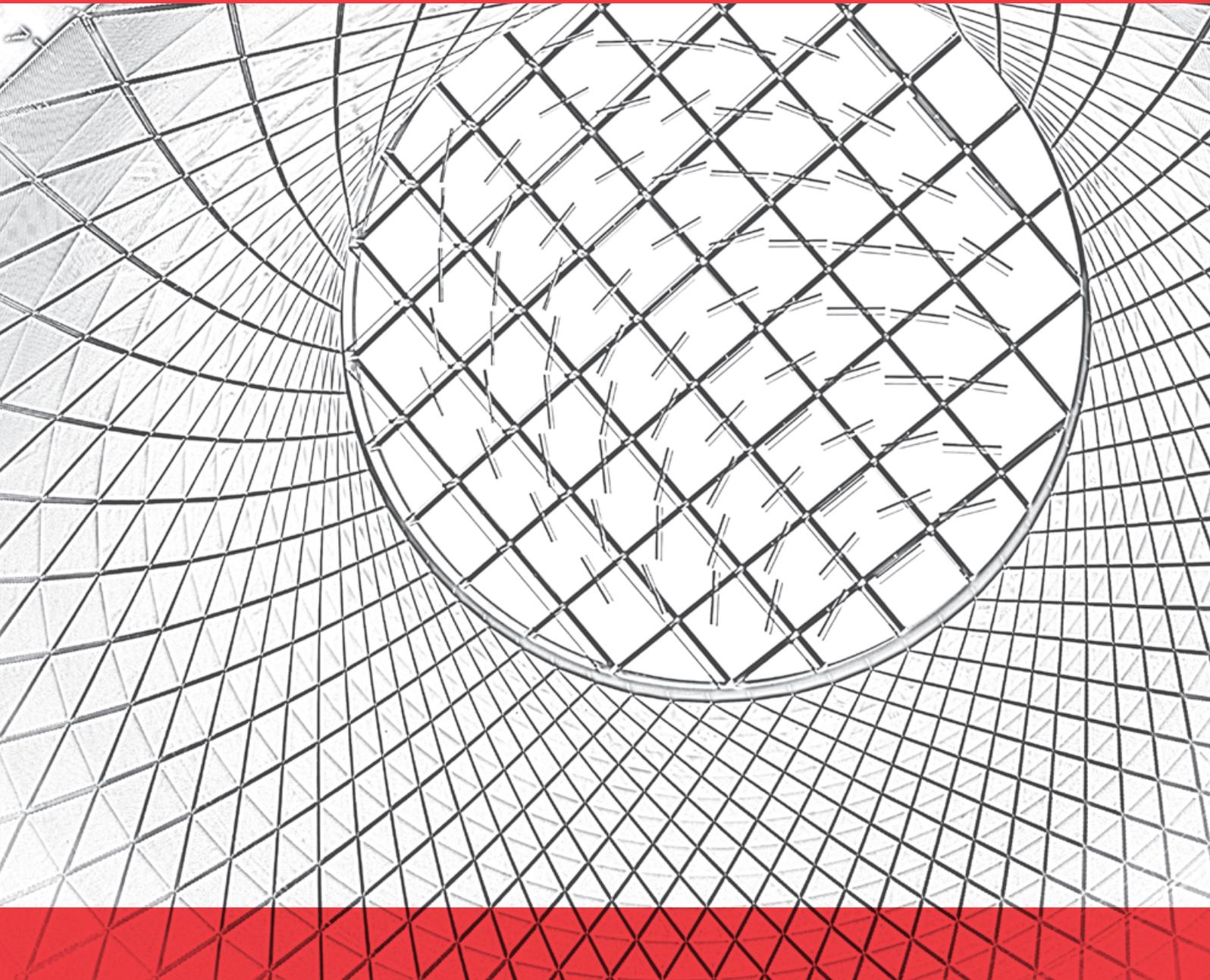




2019 Annual Report



Under the Chartered Professional Engineers of New Zealand Act 2002, the Registration Authority reports to the Chartered Professional Engineers Council each year on its administration of the Register of Chartered Professional Engineers. This report covers the 17th year of operation of the Chartered Professional Engineers (CPEng) Register.

The Registration Authority under the Chartered Professional Engineers of New Zealand Act 2002 is the Institution of Professional Engineers New Zealand (trading as Engineering New Zealand).

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Strategic overview

A key strategic priority for Engineering New Zealand during 2019 was our collaborative work with the Ministry of Business, Innovation and Employment (MBIE) in the design of a future licensing model. Changes to occupational regulation in the building and construction sector have been signalled for several years and we have had the opportunity to engage with MBIE officials during 2019 to inform the design of initial proposals for a new regulatory system for licensing engineers.

Regulatory change to establish a licensing regime for engineering will not occur during this government cycle and is expected to take between three and five years.

We continue to see the benefits of the review and refinement of our complaints and disciplinary processes. However, we are now experiencing increasing challenges resourcing the competence assessment process – there was a two to three month backlog of reassessments at the end of the year, which is impacting significantly on median processing times. Several media stories about building failures have also raised questions about whether the current system is delivering the appropriate level of assurance to the public. In view of these factors and the extended timeframe for regulatory change, the Registration Authority has committed to prioritising a review of the CPEng model during 2020/2021.

The CPEng review will build on the steps we have taken in 2019 to work with key stakeholders to address risk in the system. This includes building strong relationships with technical societies representing specific engineering disciplines and working with Building Consent Authorities (BCAs) to build a single producer statement author list.

The Registration Authority ended the financial year with a net financial deficit of \$195,724 on CPEng related activities. This follows a smaller deficit in 2018 and reflects an operating environment in which rising costs have not been matched by any increase in registration fees, which have not been revised since 2015. In 2019 we commenced a conversation with MBIE about the management of this deficit. We have also signalled an intention to review CPEng fees (refer Appendix 1), which have been unchanged since 2015, and review the CPEng Levy Regulations to more flexibly fund CPEC's operations.

Key activities

- Advising, leading and actively contributing to MBIE's design of a future licensing regime.
- Development of a new Customer Relationship Management (CRM) system for the organisation, to replace Midas. This was a top priority for 2019, but delays with the software development process have meant that the new system will not be implemented until 2020.
- Liaison with MBIE and representatives of the NZ Society on Large Dams (NZSOLD) over the development of new Regulations for Dam Safety Auditing, and associated provisions for a register of Recognised Engineers competent in the development and implementation of Dam Safety Audit plans. We expect the new Regulations to be gazetted in mid-2020 and implemented by 2022.
- Working with the Metro Council group to investigate the development of a single register for National Producer Statement Authors. This work may be incorporated into the CPEng review as noted below in the Registration Authority assessment expectations for 2020.

Highlights

- Increasing the number of Chartered Professional Engineers from 3,780 to 3,879.
- The addition of mechatronics, software and water practice fields to better recognise and accommodate engineering professionals in these fields.
- Recruitment of 56 CPEng into the role of Practice Area Assessor.
- Recruitment of 7 CPEng Practice Area Assessors into the role of Lead Assessor.
- Engineering New Zealand's work in emphasising the importance and success of inclusion and diversity within the engineering profession, which has an increasing impact on the uptake of CPEng, particularly by women.
- Resolving a record number of complaints through our early resolution process (over 55 percent).
- Supporting the resolution of outstanding insurance claims in Christchurch through the Government's Greater Christchurch Claims Resolution Service (GCCRS) and Canterbury Earthquakes Insurance Tribunal (CEIT), with the service of our expert engineering panel.

Priorities for 2020

- Implementation of a new Customer Relationship Management System, including a new system for receiving and managing CPEng applications.
- Reviewing the CPEng model to ensure it is fit for purpose, including a review of the CPEng fees.
- Releasing the Systems Report, which will identify clear and actionable recommendations for addressing the issues we are seeing in the building and construction system.
- Continuing our mahi with MBIE to build a future licensing system for engineers.
- Expediting assessment backlogs.
- Completing a record number of disciplinary hearings and building trust and confidence in our accountability processes.

Assessment process

Registrant numbers

The number of CPEng registrants continued to grow and by the end of 2019 there were 3,879 engineers on the register. Presentations and workshops given by the Competence Assessment Team around the country promoted registration and informed engineers about the assessment process. Presentations through the branches have also encouraged branch members to create CPEng assessment groups, where members can set designated dates to work towards their CPEng applications.

Mechatronics, software and water practice fields

As part of an application for competence assessment, engineers are required to state the fields of engineering that their practice area lies within. During the year, the Competency Assessment Board (CAB) agreed to add mechatronics, software and water engineering to the list of practice fields that a Chartered Professional Engineer can select from. The addition of these fields reflects the range of disciplines in which professional engineers practice. The CAB developed definitions for each of these practice fields to help those in the assessment process determine the types of work associated with these fields of practice.

Assessor recruitment

The recruitment and training of assessors is an important ongoing role for the Registration Authority and during the year we trained seven new Lead Assessors and 56 Practice Area Assessors.

Lead assessors are crucial in their role of facilitating the assessment process. Practice Area Assessors contribute technical expertise aligned to the applicant's practice area.

Competence assessment

Candidate satisfaction survey

A 15-question survey is distributed to all candidates who go through the assessment process. The response rate in 2019 rose significantly from the previous year.

The feedback collected from the 233 respondents remained generally positive about the process and the support we provide. Seventy percent of respondents rated the overall process as good or great. Unsurprisingly, given the backlog of reassessment applications, the timeliness of the process was the primary area of concern for applicants who rated the process unfavourably.

Many respondents were positive about the guidance provided by assessment advisors, the level of preparation of assessors and the environment for the interactive assessment.

Survey responses also highlight the value of the CPEng quality mark to registrants. More than 90 percent of respondents indicated that CPEng is important to the work they do.

Respondents reported a much better level of understanding of the differences between CPEng registration and Chartered Membership than in 2018.

Assessment completion target

The goal for the Registration Authority is to complete assessments within 84 days. Gathering accurate data on processing times is difficult using the current transactional database that we use and this makes year-on-year comparison difficult. However, the overall median processing time for all assessments during 2019 was around 140 days. Key contributing factors during the year were Lead Assessor availability and a shortage of Practice Area Assessors in the structural area. While we were able to recruit seven new Lead Assessors in 2019, a challenge to attracting more Practice Area Assessors is that the role is voluntary and unpaid. Without lifting the cost of assessment, we are reliant on the availability and goodwill of engineers to fill these roles.

Addressing the current backlog of reassessments and substantially improving processing times is a critical area of focus for 2020. In addition to continuing to actively recruit and train more Lead Assessors and structural Practice Area Assessors, we will also be implementing a system of triaging re-assessment applications to focus the use of our limited assessor resource most efficiently.

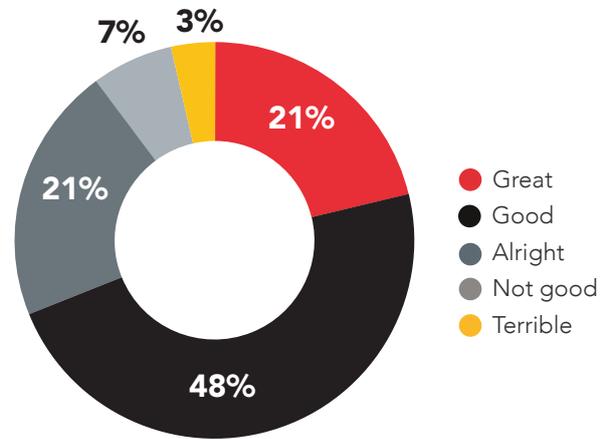


Figure 1: Survey response – overall, the assessment process was...

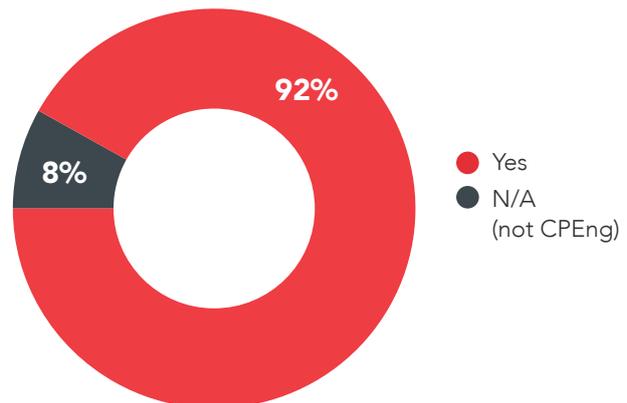


Figure 2: Survey response – the quality mark of CPEng is important to my role as an engineer

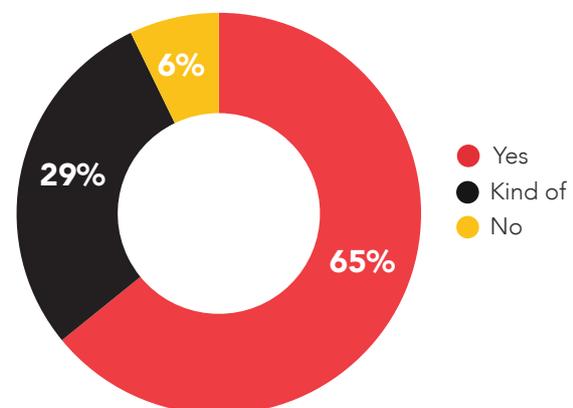


Figure 3: Survey response – I understand the similarities and differences between Chartered Membership and Chartered Professional Engineer registration

Assessment for initial registration

During the year, 247 initial registration applications were approved and six declined. Interest in the registration process continues to be strong and at the end of the year, 199 applications had either been submitted for initial verification or formally submitted awaiting evaluation by an assessment panel.

The median processing time for applications for initial registration completed during the reporting period was around 120 days (99 days in 2018), with initial assessment being given a level of priority over reassessment in terms of the allocation of limited assessor resources.

Assessment for continued registration

At the beginning of the year, 349 reassessments were still under consideration from 2018, while 793 registrants were due to undertake an assessment for continued registration during 2019.

During the year, 505 applications for continued registration were approved and two registrants had applications for continued registration declined. These numbers included some assessments of candidates whose registration was suspended following a failure to submit for reassessment during 2017. Of the 507 reassessments that were completed, the median processing time for continued registration assessments rose significantly to around 160 days (87 days in 2018), as noted above, this was primarily due to the shortage of assessors, which has created a two to three month delay in allocating applications to an assessment panel. Once assigned to a panel, applications progressed through the system in line with target timeframes and staff are actively communicating with registrants while they wait to have their application assigned to a panel.

At the end of the year, 490 applications had either been submitted for initial verification or formally submitted awaiting evaluation by an assessment panel. There were also 147 applications under assessment.

Sixty-one registrants failed to submit a portfolio of evidence for reassessment on time and will have their registration suspended. This is a lower number for suspensions than previous years.

CPEng registration under mutual recognition

Thirty-one engineers successfully applied for CPEng under mutual recognition schemes in 2019. Of these 31 CPEng registrants, five came via the Trans-Tasman Mutual Recognition Act (TTMRA) and 26 came through mutual recognition from other recognised jurisdictions.

The Registration Authority continues to apply the policy developed in 2004 for handling applications for CPEng from Registered Professional Engineers Queensland (RPEQ) in compliance with the Trans-Tasman Mutual Recognition Act (TTMRA).

The same principles are applied to those who have attained registration in other jurisdictions requiring an equivalent level of competence to CPEng.

Appeals against registration decisions

As at 31 December 2019, there was one appeal against a Registration Authority decision. The appeal related to a candidate's application for continued registration in 2015. CPEC's hearing to consider the appeal was held in December 2019 and the outcome was still pending at the end of the reporting period.

This is the first appeal against a competence assessment decision made by the Registration Authority for several years and relates to a reassessment process commenced in 2015. Although the outcome of the appeal was pending as at 31 December 2019, we have already implemented changes to address lessons learned from this case. This has included having a member of the Registration Authority's legal team attend part of a recent Lead Assessor training day to provide advice about ensuring a fair, impartial and robust assessment process. The intention is to provide the same advice to Practice Area Assessors at their next training session. We are also working with our assessment team, Lead Assessors and Practice Area Assessors to promote consistency across the assessment process, to ensure assessors and candidates have a clear understanding of what is expected. We will report more on the specifics and results of these actions throughout the coming year.

Competency Assessment Board

The Competency Assessment Board (CAB) met monthly during the reporting period (except for January – no meeting, and December – two meetings) to consider recommendations from Assessment Panels.

The CAB welcomed new members Sina Cotter-Tait (Governing Board Representative), Sisira Jayanatha, and newly-appointed Chair Stewart Hobbs.

The members of the Competency Assessment Board in 2019 were:

- » **Stewart Hobbs:** re-appointed for two years and appointed Chair for two years – term expires March 2021
- » **Hamish Denize:** re-appointed in 2018 for two years, final term expires March 2020
- » **Daniel Kennett:** appointed in 2018 for two years, term expires March 2020
- » **Simone French:** appointed in 2018 for two years, term expires March 2020
- » **Don Tate:** re-appointed in 2019 for two years, term expires March 2021
- » **Kathryn Ward:** re-appointed in 2019 for two years, term expires March 2021
- » **Branko Veljanovski:** re-appointed in 2019 for two years, term expires March 2021
- » **Sisira Jayanatha:** appointed in 2019 for two years, term expires March 2021
- » **Sina Cotter-Tait, Governing Board Representative:** appointed in 2019 for one year, term expires March 2020

CAB members are Chartered Professional Engineers with extensive experience in, and knowledge of, professional engineering. In appointing members, the Registration Authority also looks for candidates with experience in competency assessments and quality assurance of competency assessments. Geographical representation across the country is also taken into account.

Assessors

The assessment workload during 2019 was greater than in 2018. While there was an increase in the number of reassessments completed, fewer first-time assessments were completed. The decline in Lead Assessor capacity has affected median processing times. There are a higher than average number of reassessments scheduled for 2020, so expanding our Lead Assessor pool and implementing a triage approach to reassessment are key priorities in the first quarter of 2020.

Table 1: Assessor numbers as at end of 2019

Assessor Type (Current CPEng)	Available
Practice Area	439
Contract Lead	20
Permanent Engineering New Zealand Staff Lead	3
Knowledge	4

Registration Authority assessment expectations for 2020

CPEng review

The Registration Authority has committed to commencing a review of the CPEng process in 2020. This is a critical step in maintaining trust and confidence in the CPEng quality mark and ensuring that rules and processes are administratively efficient and fit for purpose. We will engage with CPEC closely on the review and incorporate lessons learned through recent CPEC appeals.

The review is expected to consider options for integrating Bodies of Knowledge and Skills (BOKS) developed by technical societies, including the NZ Geotechnical Society and the Structural Engineering Society. Work to integrate BOKs with the assessment process was signalled in our 2018 Annual Report but could not be progressed as work on regulatory reform had to be prioritised. The review will also consider how the CPEng model can best serve the needs of Building Consent Authorities (BCAs) and pick up on recent work to improve alignment between the Registration Authority and BCAs.

Assessment workload

The CPEng register continues to grow, and the numbers reflect Engineering New Zealand reach and CPEng's standing as a respected quality mark of professional engineering practice. Projections for 2020 are for 350 applications from engineers for first-time assessment, who will be mainly Emerging Professional Members of Engineering New Zealand, and 1200 Continued Registration Assessments. This significant projected workload, including a current three-month backlog of reassessments, is placing stress on the assessment system. The work scheduled for 2020 to improve and strengthen the CPEng qualification will have an impact on the target completion rate of 84 days and this target may require some recalibration. Priority actions in response to the assessment workload include:

- The CPEng review
- Recruitment and training of additional assessors.
- Ongoing initiatives to improve the administrative efficiency of the assessment process, including the development of an initial triage process to streamline resource allocation
- Reintroduction of assessment rounds (or set submission dates) for initial assessments.

Register trends

Registration statistics as required by s52(2) of the Act

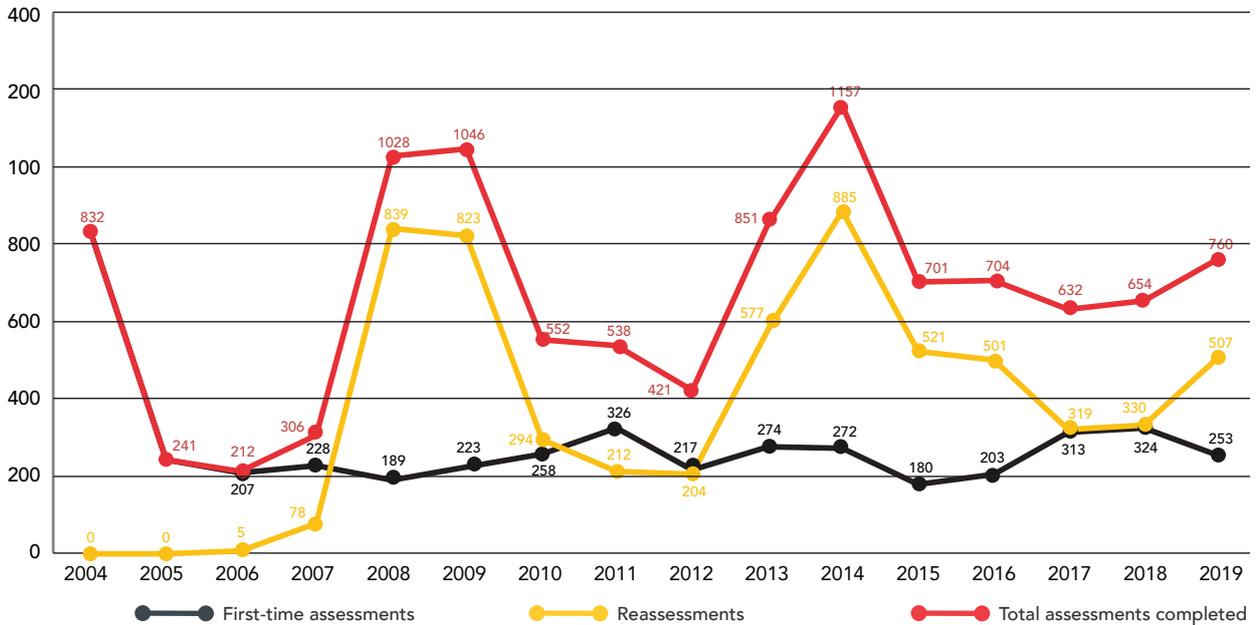


Figure 4: Number of assessments processed

Figure 4 shows a reduction in the number of first-time assessments and increase in the number of reassessments in comparison to 2018.

Table 2 provides a summary of the registration statistics required by section 52(2) of the Act for the reporting period (2019).

Table 2: Registration Statistics for 2019

Registration Statistics for 2019	Number
Chartered Professional Engineers at the end of the reporting period	3,879
Applicants (first) registered during the reporting period	247
Applicants declined registration during the reporting period	6
Registrants resigned or removed during the reporting period (see note 1)	153
Registrants suspended during the reporting period	133
Registrants placed in abeyance during the reporting period	48

Note 1: Reasons for removal from the register can include:

- » resignation
- » death
- » Registration Authority action due to non-payment of fees, inability to meet the standard for continued registration or disciplinary action.

The number of registrants who resigned or were removed from the register during 2019 includes registrants whose registration was already in suspension at the beginning of the reporting period.

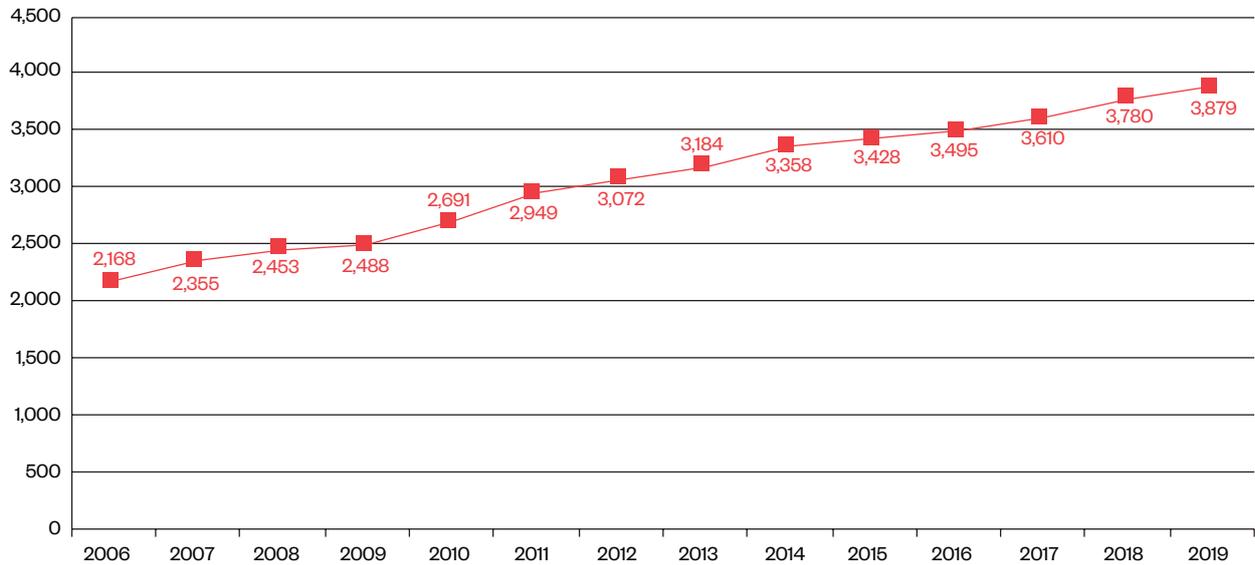


Figure 5: Number of CPEng registrants

Age distribution and gender breakdown

The number of female engineers on the register remains low, and the percentage of female CPEng registrants has increased by only three percent over the last 10 years.

Consistent with the broader targets established as part of Engineering New Zealand’s Diversity Agenda, we have a goal of increasing the number of women on the CPEng register by 20 percent by 2021. At the time the Diversity Agenda was launched in April 2018, we had 330 women on the register, so we need to exceed 400 female CPEng by 2021 to achieve this target. At the end of 2019, encouraging progress had been made and we had 376 women on the register.

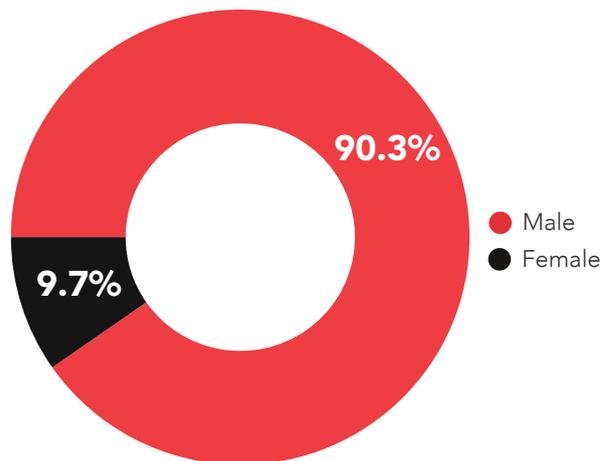


Figure 6: Gender (binary) breakdown of CPEng registrants

Figure 7 shows a distributed age profile of CPEng. Engineers tend to follow wider workforce trends of working longer, with 4.5 percent of registrants working and contributing to the profession in the 70–89 age bracket.

As with other occupations that have public safety at the core of their mandate, the public needs assurance of continued competence and the reassessment process is a means of achieving this.

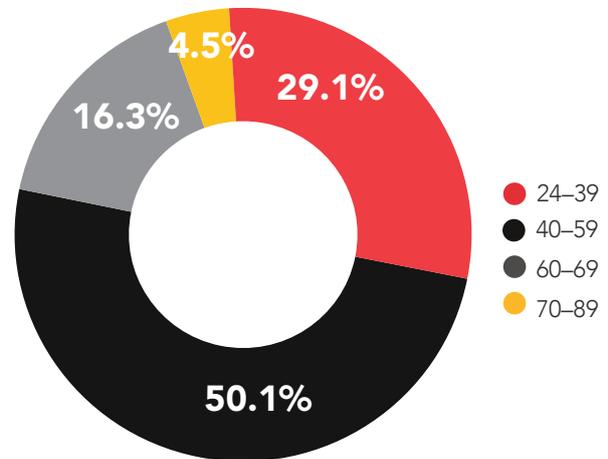


Figure 7: Breakdown of CPEng registrants by age

Fields of engineering practice

Candidates self-declare one or two practice fields they consider best align with their practice area, as part of their portfolio of evidence for either their first-time assessment or reassessment.

While many engineers have more than one practice field, our message to assessors and candidates is that having more than one practice field is an exception.

The information in Table 3 provides the number of current registrants in a practice field and answers the question of “How many (or what percentage) of CPEngs are ‘structural’ engineers?” Please note totalling the number of registrants across all fields will exceed the total number of current CPEng registrants.

Table 3: Distribution of CPEng registrants by practice field

Practice field	Number of CPEng at 1 December 2018	Number of CPEng at 31 December 2019	Movement in registration numbers between 2018 and 2019	2019 ranking
Civil	1,439	1,427	-12	1
Structural	1,199	1,258	59	2
Management	562	520	-42	3
Environmental	392	382	-10	4
Geotechnical	337	354	17	5
Transportation	323	311	-12	6
Mechanical	298	285	13	7
Electrical	248	241	-7	8
Building services	160	187	27	9
Industrial	116	113	-3	10
Fire	91	93	2	11
Chemical	36	34	-2	12
Petroleum	37	31	-6	13
Information	21	20	-1	14
Aerospace	12	11	-1	15
Mining	8	6	-2	16
Academic	5	6	1	17
Water	0	2	2	18
Bio	2	0	-2	19
Mechatronics*	0	0	0	20
Software*	0	0	0	21

*While there were no registrants for Mechatronics or Software engineering during 2019, we anticipate these emergent fields will attract registrants and will be noted in future reporting.

Geographical distribution

Table 4 shows the geographical distribution of CPEng registrants that are also members of Engineering New Zealand. The challenge for engineers practising overseas is demonstrating they are able to comprehend and apply New Zealand-specific knowledge when undertaking reassessments. Being able to conduct reassessments using on-line videoconferencing is a distinct advantage for these engineers.

Table 4: Geographical distribution of CPEng registrants

Engineering New Zealand branch	Number of CPEng	%
Northland	60	1.5
Auckland	1,390	35.8
Waikato-Bay of Plenty – Hamilton	225	5.8
Waikato-Bay of Plenty – Tauranga	123	3.2
East Coast	4	0.1
Taranaki	76	2
Hawke's Bay	67	1.7
Whanganui	11	0.3
Manawatu	42	1.1
Wellington	430	11.1
Nelson-Marlborough	80	2.1
West Coast	11	0.3
Canterbury	645	16.6
South Canterbury	12	0.3
Otago	117	3
Southland	19	0.5
United Kingdom	46	1.2
No branch*	200	5.2
CPEng non-members**	321	8.3
TOTAL	3,879	100%

*CPEng/Engineering New Zealand members overseas (outside of the UK) or not affiliated to a New Zealand branch

**Registered CPEng who are not Engineering New Zealand members and therefore not members of a branch

Complaints and disciplinary activity

In 2019 the Registration Authority continued to build on the changes made to the complaint resolution process in 2016, including further refining the early resolution process and credibility of its formal investigation and disciplinary processes.

Profession's capability for resolving complaints

As reported in last year's annual report, in October 2017 Engineering New Zealand published a toolkit resource for engineers to assist them with complaints resolution. The toolkit, which is available on our website, gives engineers practical tips on how to recognise when someone is dissatisfied, and what action they can take to resolve things in the best possible way to avoid a formal complaint.

In 2019, we continued to use the toolkit to educate engineers on why complaints matter and how to best resolve them. This included presentations to University of Canterbury students on ethics, complaints and professionalism and workshop sessions with several Engineering New Zealand branches.

Engineering New Zealand's expert engineering panel now provides services to the GCCRS and CEIT, and has had significant success in contributing to resolving outstanding quake-related damage claims that are held up due to engineering. This service offers solutions for Christchurch homeowners that our complaints process does not and has led to a reduction in the number of quake-related complaints coming out of Christchurch.

Decision-maker capability

We continue to work closely with our decision-makers to ensure robust, fair and proportional decision-making. At the end of the 2019 calendar year we had 10 Investigating Committee Chairs and 2 Disciplinary Committee Chairs. A priority in 2020 is recruiting a third Disciplinary Committee Chair to cope with a higher than average number of disciplinary hearings forecast.

We are now regularly recruiting lawyer members to our Disciplinary Committees who are experienced in professional regulation. This increases the legal rigour of our decision-making at the disciplinary stage.

Learning from complaints

We have further developed the mechanism for coding complaints that we introduced in 2017, to ensure that themes and learnings are better captured. We record engineers' field of practice, geographical location and key issues. We are using this information to identify themes and trends to build into our quality improvement initiatives.

The complaints resolution team continues to include a column in every issue of Engineering New Zealand's quarterly *EG* magazine, building on case studies, and regularly contribute to Engineering New Zealand's email newsletter *Discover*. We have noticed that articles about complaints and disciplinary decisions consistently attract high readership figures.

Complaints snapshot

Concerns/complaints received

The Registration Authority received 41 concerns/complaints about Chartered Professional Engineers during the 2019 calendar year. This is two fewer than in 2018.

Concerns/complaints closed

Concerns raised with the Registration Authority first undergo a Triage Assessment. The purpose of the Triage Assessment is to gather preliminary information about the concerns to ascertain jurisdiction, and to decide whether to offer the parties the option of early resolution (for example, alternative dispute resolution, or an educational approach).

If early resolution is not an appropriate option given the nature of the concerns, or the parties do not agree to early resolution, the matter proceeds as a complaint to be considered in accordance with the formal complaints and disciplinary process set out in the Chartered Professional Engineers of New Zealand Act and Rules.

The complaints process has three decision-making stages: adjudicator; investigating committee; and disciplinary committee. A complaint may be dismissed at either the adjudicator, investigating committee or disciplinary committee stages. A complaint can only be upheld by a disciplinary committee.

Thirty-three concerns or complaints about Chartered Professional Engineers were closed in the 2019 calendar year – three fewer than in 2018. This includes concerns/complaints received both during and before 2019. A higher than usual number of complaints open during 2019 have progressed through to the Disciplinary Committee stage, which inherently leads to longer timeframes before these cases can be resolved. We have taken steps to manage these cases in 2020, including making it a priority to recruit a new Disciplinary Committee Chair.

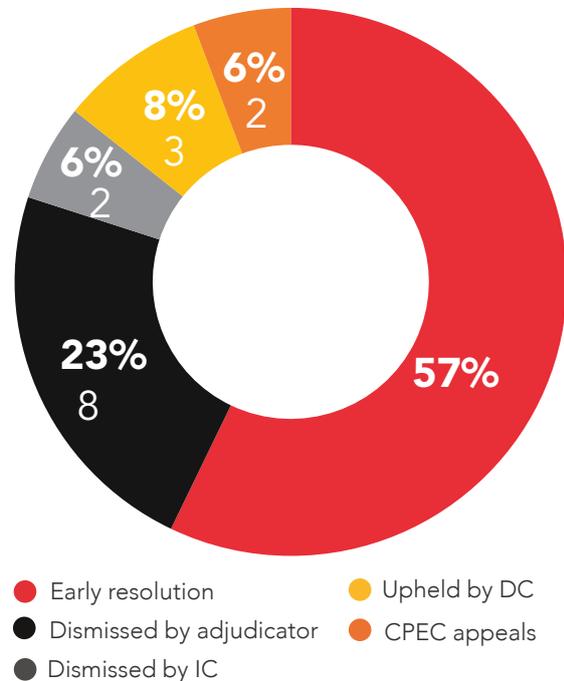


Figure 8: Manner of resolution

Figure 8 shows the manner of resolution for these concerns/complaints. A record proportion of concerns were resolved by early resolution in 2019, which is a significant success. Concerns closed through the early resolution process took, on average 5.2 months to resolve. Complaints that proceeded through our formal process took, on average, 15.5 months to resolve.

One disciplinary hearing was held about a Chartered Professional Engineer in 2019. That complaint has been upheld but is under appeal to CPEC. Another complaint was upheld by a disciplinary committee in 2019 following a hearing held in late 2018. Three further complaints against Chartered Professional Engineers were put before disciplinary committees “on the papers”, ie without a hearing in person. One of these was upheld and decisions on the other two were pending at 31 December 2019.

Themes and trends

The 33 concerns/complaints closed in 2019 have been categorised according to the key issues (as identified from the letter of complaint) and the practice field of the engineer involved.

Key issues

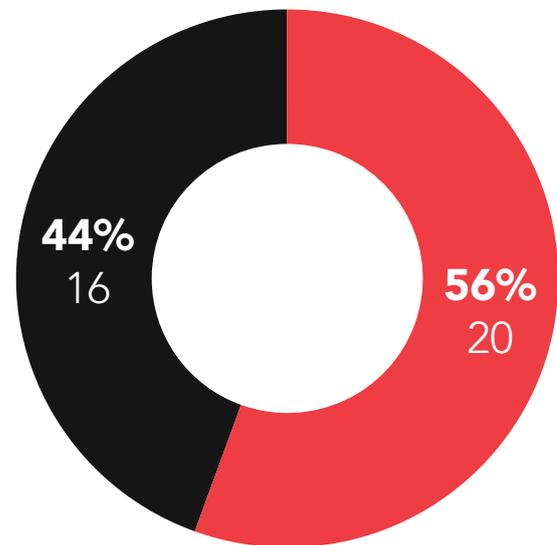
In line with previous years, issues of competency and the adequacy of engineering design or assessment remain the most common source of complaints. However, a high number of complaints also stem from concerns about professional and ethical conduct. This includes complaints about conflicts of interest, client care, and the attitude and response of engineers. Almost all complaints include an element of relationship breakdown between the parties.

Our early resolution process continues to be an asset in responding to complaints where the key issue is relationship or communication-based, as opposed to those complaints that raise significant competence or safety concerns. Mediation, in particular, offers an opportunity for parties to reach a resolution they are both satisfied with, rather than one party feeling they have 'lost'.

Practice fields

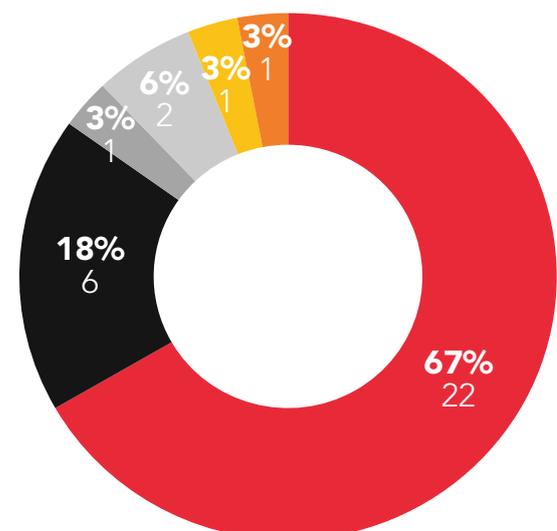
Consistent with previous years, most complaints we receive are about structural engineers. There are many reasons why structural engineers receive more complaints than other engineering disciplines. Recent earthquakes put structural engineers in the spotlight and structural engineers often have more direct and frequent contact with their clients, who are usually members of the public.

Five of the 34 complaints closed related to structural engineering work related to Canterbury earthquake insurance claims. This is half the number compared to 2018, due in part to the availability and success of the GCCRS in responding to outstanding concerns about quake-related engineering issues.



- Ethics/professionalism
This calculation includes cases which cover both issues (3 files covered both)
- Competency
Includes 2 that covered both

Figure 9: Key complaint issues



- Structural
- Civil (Water)
- Fire
- Transport
- Geotechnical
- Electrical

Figure 10: Practice fields

GCCRS and CEIT

In July 2018, the Government approached Engineering New Zealand to assist with setting up its new Greater Christchurch Claims Resolution Service (GCCRS). The service, which launched in October 2018, is a free brokering service for residential homeowners in Christchurch who need assistance to resolve their outstanding insurance claims.

Following consultation with engineers, homeowners, lawyers and insurers, we established an expert engineering panel to assist the GCCRS with claims resolution. The panel offers peer review and expert advice. In addition, Engineering New Zealand established a service to facilitate between engineers who have different opinions on earthquake damage and reinstatement. The facilitators are senior engineers specifically trained in facilitation and mediation techniques. The panel and facilitation service were launched on 18 December 2018. The services of the panel were extended to the Canterbury Earthquake Insurance Tribunal when it was established in 2019. Up to the end of 2019, Engineering New Zealand had received 150 referrals to the panel. Feedback on the service continues to be positive.

Since December 2018, Engineering New Zealand's Expert Engineering Panel has supported the Greater Christchurch Claims Resolution Service (GCCRS). Since June 2019 the Panel has also provided services to the Canterbury Earthquakes Insurance Tribunal (CEIT). The Panel's work is a direct response to what we have seen through complaints and has contributed to the successful resolution of some long-standing disputes between homeowners and insurance companies. We are extremely proud of the Panel's work in this area.

Engineering New Zealand continues to work with engineers in Christchurch to improve the quality of engineering service delivery in the earthquake response space. This includes:

- providing clear information to engineers and homeowners on the role of engineers;
- how to engage an engineer; and
- what engineers need to know when carrying out these types of assessments.

As part of this, Engineering New Zealand developed a template letter of engagement that members of the public can use to engage an engineer to undertake an assessment of earthquake damage to their home.

Own motion inquiry and systems report

In December 2016, the Registration Authority commenced an Own Motion Inquiry into the engineering design of six buildings in Masterton.

As well as investigating the individual engineers responsible for the buildings' design, the inquiry has brought to the surface many issues relating to the system in which engineers operate – from issues with individual engineers repeating mistakes through to quality assurance initiatives across the system. We are developing a report to help understand issues affecting engineers working in the building industry, and what can be done to avoid mistakes being repeated in the future. Although our decision to produce this report was motivated by the own motion investigations, we are also drawing on recurring themes and lessons learned from other complaints. It is important to us that the report is not a finger-pointing exercise or simply a showcase of the problems in the industry – it's important that we identify clear and actionable recommendations for addressing the issues we are identifying. We will be seeking expert input to ensure our recommendations are practical, realistic and make an impact.

The report, and the outcome of the own motion investigations, are expected to be finalised in the first half of 2020.

Case studies

The following three case studies show how complaints are being resolved through our complaints process. These case studies paint a picture of our approach to complaints, working with the parties to achieve resolution that is proportional and fair, which in turn helps to rebuild trust and confidence in the profession.

CASE STUDY ONE **Early resolution by mediation**

An engineer was engaged by a client to complete engineering services for the fitout of a commercial business. The engineer raised concerns with the Registration Authority about another engineer, who had been engaged by the local building consent authority to review the client's building consent application. The concerns were that the BCA's engineer had applied an inapplicable standard when reviewing the application, had provided incorrect calculations based on mistaken assumptions, and had given the BCA incorrect advice about the building use requirements. As a result, the client's building consent application was delayed.

The BCA's engineer initially responded defensively through their lawyer. However, the parties agreed to attend a mediation to try to resolve the concerns outside the formal process. The Registration Authority saw this as an appropriate option because the engineers worked in the same industry and were likely to have an ongoing professional relationship, and it would be beneficial for them to hear each other's perspectives and try to find a way forward. The concerns raised did not raise significant questions about the BCA's engineer's competence – rather, this was more a matter of miscommunication and mistaken assumptions that had led the BCA's engineer to take a more conservative approach than necessary.

The mediation was successful in less than three hours and the complaint was withdrawn. This resolution took less than four months.

CASE STUDY TWO

Upheld by Disciplinary Committee

A client instructed an engineering consultancy to create a design for their architecturally designed home. A junior engineer prepared the design and a senior engineer at the same consultancy signed the producer statement.

The client became concerned and had the matter reviewed by another engineer. Instead of the normal peer review process, the two design engineers and the client's new engineer attended several meetings. The original design was modified on three occasions. The client subsequently cancelled the contract with the original engineering consultancy and complained to Engineering New Zealand about the engineer who had signed the producer statement.

During the Engineering New Zealand investigation, an independent expert advised that neither the original design (prepared by the junior engineer) nor the second design were adequate.

The complaint was upheld. The Disciplinary Committee ordered that the engineer who signed off the design pay a fine of \$2,500 and a contribution towards costs of \$7,305.10. Costs were lower than standard because the engineer accepted he had breached the relevant competency standards and the parties were able to reach an agreed statement of facts – as a result, the Disciplinary Committee agreed an in-person hearing was not required.

This complaint took three years to resolve. This is outside desired timeframes but reflects the complexity of both the facts of the case and the formal complaints process. Although the engineer was found to have breached the relevant competency standards, the Disciplinary Committee decided against an order naming the engineer. The reasons were: the engineer had considerable experience and a previously unblemished history; there was no suggestion of wider competency concerns; and the engineer and his firm had reviewed their processes in light of the complaint to avoid repetition of the same failings.

CASE STUDY THREE

Dismissed by Investigating Committee

A building consent authority complained to the Registration Authority that an engineer had carried out construction monitoring and signed a producer statement (PS4) for a project that did not have building consent. This complaint was one of several the Registration Authority has received in the last two years about engineer's monitoring or signing off unconsented work.

In this case, the engineer had attended site and inspected the pre-pour foundations. The engineer's understanding was that works were being carried out only to the point of preparing the foundations to a pre-pour state, which would have still allowed the BCA to carry out the relevant inspections. The engineer did not consider they should notify the BCA that work had started, because they had an obligation of confidentiality to the client. The Investigating Committee disagreed and said the engineer should have, at a minimum, informed the client that there was a legal risk in commencing construction without consent. The engineer should also have followed up with the client to check consent had been granted.

The PS4 signed by the engineer in this case was issued in support of an application for a Certificate of Acceptance. The BCA was aware of the purpose of the PS4, and the Investigating Committee accepted the engineer did not intend to mislead anyone by signing a PS4 in these circumstances. It would have been preferable if the engineer had removed the standard wording of the PS4 to reflect the circumstances in which it was issued, but this was considered a minor departure from accepted standards.

The Investigating Committee dismissed the complaint as insufficiently grave to warrant further investigation. However, it made several educative comments about how the engineer could improve their practice and avoid similar situations in the future. The Investigating Committee commented that supervising unconsented work was a serious matter, and that if certain circumstances had been different, further investigation may have been warranted. On balance, however, the engineer's response to the complaint satisfied the Investigating Committee that he understood consenting requirements, and that this complaint was most appropriately resolved by dismissal with educative comments.

This complaint was resolved in 14 months.

Financials

The Registration Authority's deficit continues to be a challenge, ending the year with a net deficit of \$195,724. Registration fees no longer reflect the reality of operating a robust and fit-for-purpose regulatory system. Changes to improve the robustness of our processes have reduced the number of appeals over recent years and built trust in our system, but this has required investment at the front end. In addition, the increasing uptake of CPEng initial assessments and reassessment requirements places an increasing strain on our resources. These challenges, coupled with a need to address the limitations of our current database Midas, mean that we no longer see cost recovery through future fees as a realistic pathway to recover the deficit.

Resource limitations are also affecting the efficiency of our processes. A key constraint in securing enough assessor resource is the fact that Practice Area Assessors and CAB members are voluntary and unpaid. Without lifting the cost of assessment, we are reliant on the availability and goodwill of engineers to fill these roles. We also have no control over the number and complexity of complaints/concerns raised, so we are vulnerable here too without a means of recovery such as 'per complaint' payment.

We have exhausted opportunities to cut costs of delivering the CPEng process any further. In 2019 we commenced a conversation with MBIE about the management of this deficit and we seek CPEC's support in these conversations.

Appendix 1

CPEng fees for 2019 (unchanged since 2015)

Initial registration

Charge or rebate	Amount (excl. GST)
	(\$)
Registration application charge	3,253
less any of the following rebates that apply:	
if there is no engineering knowledge assessment	1,175
if there is no interactive assessment	270
for each assessor (if any) who is not remunerated for an assessment during which there is an interactive assessment	513
for each assessor (if any) who is not remunerated for an assessment during which there is no interactive assessment	378
for applicants exempted under rule 9(2) from having to provide certain information, if the assessment panel uses only a single interactive assessment	350

Registration certificates

Charge	Amount (excl. GST)
	(\$)
Registration certificate charge for a certificate issued for 1 year commencing 1 January	460
Registration certificate charge for each calendar month, or part of a calendar month, for which a certificate is issued if issued for less than 1 year	40

Continued registration

Charge or rebate	Amount (excl. GST)
	(\$)
Further interactive assessment charge	640
less the following rebate if it applies:	
for each assessor (if any) who is not remunerated for the further interactive assessment	225

Review of registration decision procedures

Charge	Amount (excl. GST)
	(\$)
Charge for review of decision procedures	1,000

Voluntary abeyance

Charge	Amount (excl. GST)
	(\$)
Charge for each 12-month period of abeyance	289

Appendix 2

Summary of fee income and costs incurred 2019

\$

Revenue from annual CPEng fees, fines and admission applications	1,902,788
Less:	
Operational costs	892,233
Professional standards costs	890,649
Complaints and litigation costs	315,630
Total Expenditure	2,098,512
Net Deficit	195,724

Notes:

1. All figures are for the year ended 30 September 2019 and are taken from the Engineering New Zealand audited accounts and associated management reporting.
2. Operational costs are an allocation of costs based on the relative membership numbers.
3. Professional standards costs are based on a direct allocation of costs associated with CPEng professional standards activity.
4. Complaints and litigation costs are the direct costs associated with receiving and processing complaints and costs associated with individual hearings.

This year's deficit of \$195,724 compares unfavourably to last year's deficit of \$81,198. The unfavourable movement is due largely to dealing with a higher level and complexity of complaints.

There is a carried forward deficit of \$1,306,331 after this year's result.



The Registration Authority under the Chartered Professional Engineers of New Zealand Act 2002 is the Institution of Professional Engineers New Zealand (trading as Engineering New Zealand).