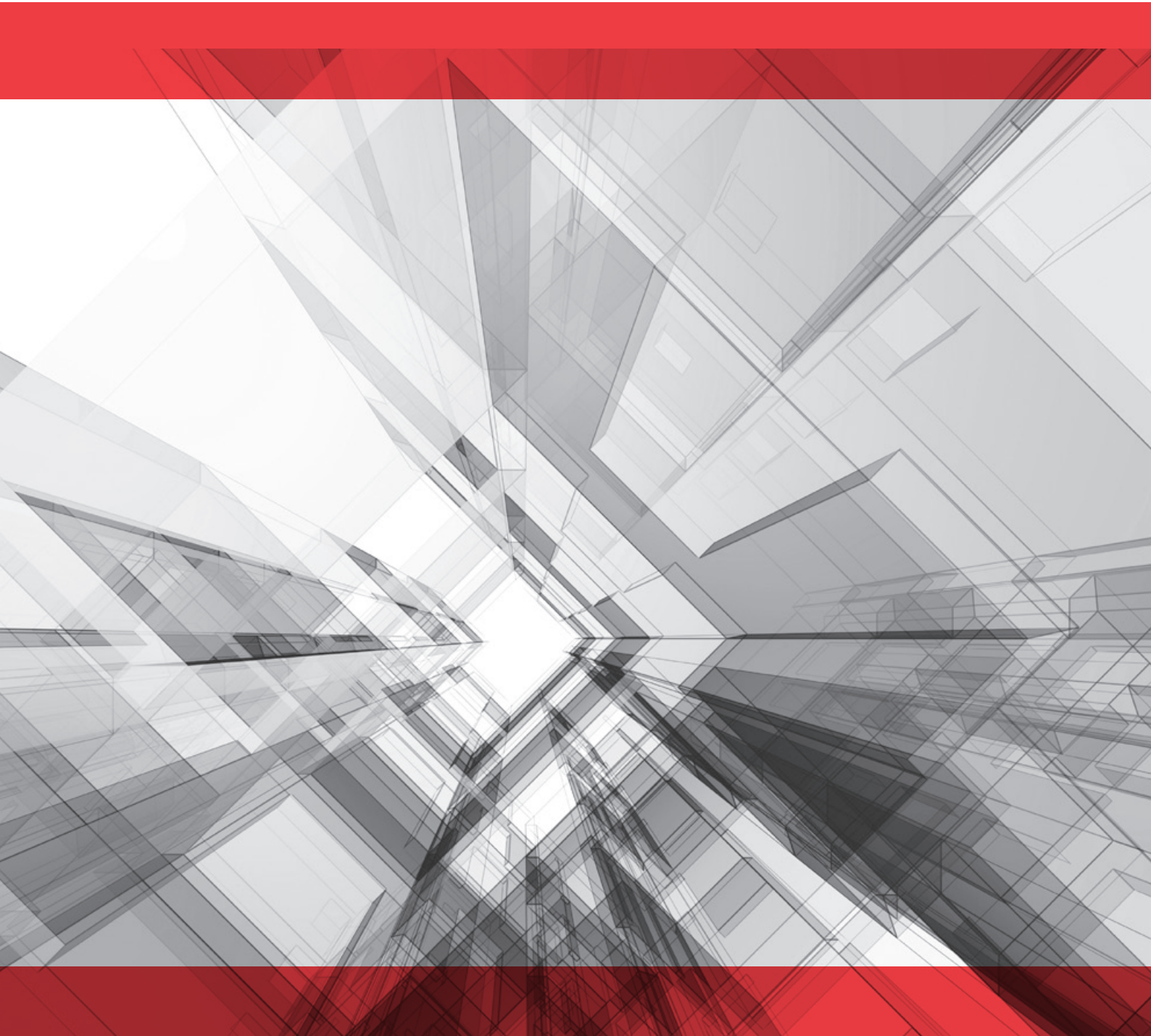




# 2018 Annual Report





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 sixteenth 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

2018 was primarily a year of consolidation in which we embedded significant changes launched in 2016/17, including:



A new trading name and membership pathway



A streamlined CPEng application process through a revised assessment portal.



Changes to our complaints resolution process and the early resolution processes in particular.

## Key activities



Working alongside MBIE to design a future licensing regime.



Progressing the implementation of Bodies of Knowledge and Skills (BOKS) within the CPEng assessment for structural and geotechnical engineering.



Development of a new Customer Relationship Management (CRM) system for the organisation to replace Midas.

## Highlights



Increasing the number of Chartered Professional Engineers from 3,610 to 3,780.



Adding an Academic practice field to better recognise and accommodate engineering academics.



Targeted recruitment of 42 women into the role of Practice Area Assessor.



Development and implementation of a 'desktop qualification review' process as part of our approach to Knowledge Assessment.



Establishing an engineering service to support the resolution of outstanding insurance claims in Christchurch through the Government's new Greater Christchurch Claims Resolution Service.

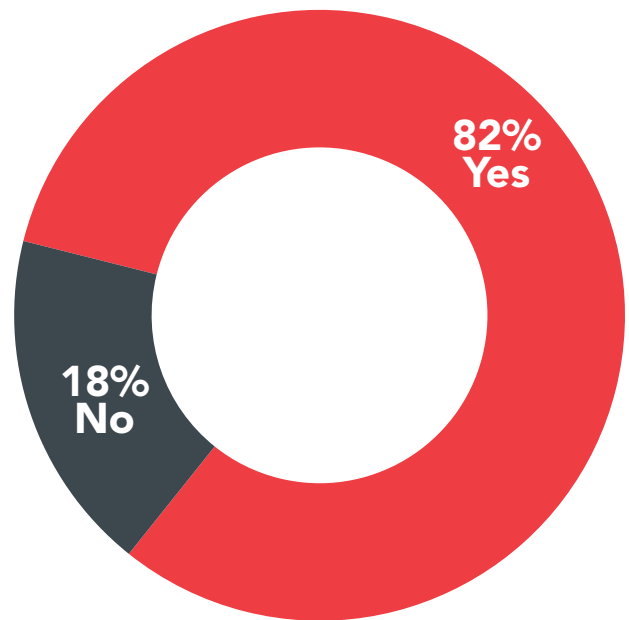
## Trading name and membership pathway

In October 2017, Engineering New Zealand became the established trading name of IPENZ, and a new membership pathway was introduced to provide a more inclusive professional home for all engineers, from all disciplines, at all stages of their careers.

The success of this new strategic direction was borne out by the addition of over 1,850 members during 2018. The number of Chartered Members increased by 101 over the same period.

## Revised assessment portal

A considerable amount of work was undertaken to design and implement an assessment portal to provide CPEng candidates a more user-friendly, streamlined and less repetitive system to interact with. Throughout 2018 a survey was distributed to candidates that have used the revised assessment portal to gauge its effectiveness and get feedback on the user experience. Over 80 percent of survey respondents reported a positive experience.



*Figure 1: Survey question – I found the online assessment tool easy to navigate.*

# Professional standards

## Future licensing model

A strategic priority for Engineering New Zealand during 2018 was to advocate for and assist with the design of a future licensing model for safety-critical engineering work.

Changes to occupational regulation in the building and construction sector have been signalled for several years. We were pleased to have the opportunity to engage with MBIE officials during 2018 to inform the design of initial proposals for a new regulatory system for licensing engineers. The overall objective of the project is to protect the public from harm by:

- » providing assurance that those practitioners carrying out safety-critical engineering work are competent to do so
- » ensuring practitioners are held to account for carrying out substandard work.

MBIE has signalled an intention to commence public consultation on a future licensing model early in 2019.

## Bodies of Knowledge and Skills (BOKS)

In response to the Canterbury Earthquakes Royal Commission, the Ministry of Business, Innovation and Employment (MBIE) led a project to develop BOKS specific to technical disciplines.

Initial work focussed on geotechnical and structural engineering in conjunction with the New Zealand Geotechnical Society (NZGS) and the Structural Engineering Society (SESOC), with the Society for Fire Protection Engineers commencing development of BOKS for fire engineering during the year. BOKS for geotechnical and structural engineering have now been completed and we are working with the technical societies to develop a common approach to integrating the BOKS into the current CPEng assessment process during 2019.

Current thinking is to use these BOKS to guide the development of common assessment tasks that test engineers' understanding of core BOKS elements.

## New Customer Relationship Management (CRM)

This is a top priority for 2019 and is crucial in creating a good experience for candidates that are compiling information for, or going through, the CPEng assessment process. The Midas platform will be replaced with a quality CRM that will allow for better management, accessibility by candidates and reporting on trends and themes. These can then be fed into our policies, processes and educational offerings to improve what Engineering New Zealand provides to support current good engineering practice.

# Assessment process

## Registrant numbers

The number of CPEng registrants continued to grow during the year and by the end of 2018 there were 3,780 engineers on the register. Presentations and workshops given by the Competence Assessment Team have continued to promote registration and inform engineers about the assessment process.

## Academic practice field

As part of an application for competence assessment, engineers are required to advise the fields of engineering that their practice area lies within. During the year, the Competency Assessment Board agreed to add Academic to the list of practice fields that a Chartered Professional Engineer can select from. The change was made to recognise the important role that engineering academics play in the profession, and was supported by the development of guidelines showing how the work of an engineering academic might satisfy requirements for chartered status.

By the end of the year, five Chartered Professional Engineers had associated their practice with the Academic field.

During 2019, consideration will be given to further additions to the list of practice fields, to appropriately recognise engineers practising in critical and/or emerging engineering fields such as mechatronics, software and water engineering.

## Practice Area Assessor recruitment

Practice Area Assessors play an important role in the competence assessment process by contributing technical expertise aligned to the applicant's practice area.

As part of Engineering New Zealand's Diversity Agenda ([diversityagenda.org](http://diversityagenda.org)) we launched a targeted initiative to increase the number of female Practice Area Assessors during the year. 67 new Practice Area Assessors were recruited and trained during the year, 42 of which were women.

We now have a total of 428 Practice Area Assessors, including 62 women (14.5%).

## Knowledge Assessment refinements

During 2018 we developed a 'desktop qualification review' process to expedite the knowledge assessment for candidates who are likely to be able to meet the requirements for Washington Accord equivalence through formal qualifications. The full Knowledge Assessment process, including submission of a detailed self-assessment and work samples and an interview, is still used for candidates who are unsuccessful through the desktop review or who are needing to rely on more experiential knowledge development.

Experience gained from applying the desktop qualification review process during the year has enabled us to develop guidance on candidates who are more likely to be successful through the desktop process.

# Greater Christchurch Claims Resolution Service

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 achieve resolution of 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.

In addition, Engineering New Zealand is working 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.



# Competence assessment

## Candidate satisfaction survey

As noted previously, a 15 question survey on the new assessment process was distributed to all candidates who have gone through the process in 2018. The response rate to the survey was quite low and the data sample is small (33 respondents during the year), but the feedback that has been received has generally been positive about the process and the support that we provide.

Many respondents to the survey have been positive about the guidance provided by assessment advisors, the level of preparation of assessors and the environment for the interactive assessment. Over 90% of respondents have reported a neutral or positive perspective of the assessment process overall, while the vast majority of applicants consider CPEng to be important to their role as an engineer.

Responses also highlighted the need to continue to work on addressing ongoing confusion between CPEng registration and chartered membership of Engineering New Zealand.

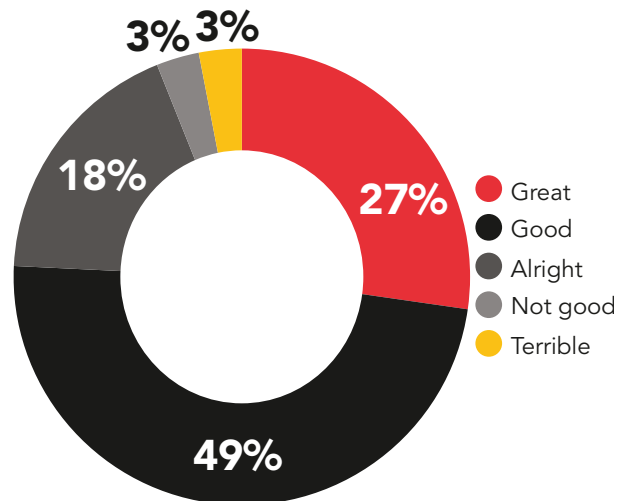


Figure 2: Survey response – overall, the assessment process was...

## Assessment completion target

The goal for the Registration Authority is to complete assessments within an 84-day window. It was disappointing that during 2018 the median completion time rose to 92 days. Key contributing factors during the year have been an increase in the number of initial competence assessment applications and a sudden decline in Lead Assessor availability during the second half of the year when application numbers were peaking. While a shortfall of Practice Area Assessors was addressed during the year, recruitment of additional lead assessors becomes a pressing priority for the first quarter of 2019.

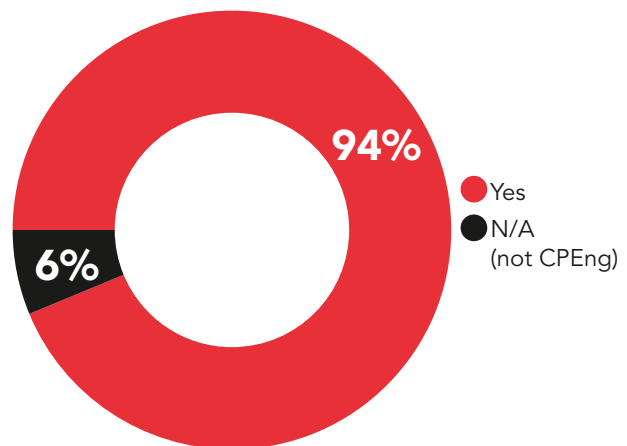


Figure 3: Survey response – the quality mark of CPEng is important to my role as an engineer

## Assessment for initial registration

During the year, 313 initial registration applications were approved and 11 declined. Interest in the registration process continues to be strong and at the end of the year, 215 applications had either been submitted for initial verification or formally submitted for evaluation by an assessment panel.

The median processing time for applications for initial registration completed during the reporting period was 99 days, (the Registration Authority target is for a median turnaround time of 84 days).

## Assessment for continued registration

At the beginning of the year, 163 re-assessments were still under consideration from 2017, while 494 registrants were due to undertake an assessment for continued registration during 2018.

During the year, 319 applications for continued registration were approved and 11 registrants had applications for continued registration declined. These numbers included some assessments of candidates whose registration was suspended following a failure to submit for re-assessment during 2017. Of the 330 re-assessments that were completed, the equivalent median processing time for continued registration assessments also extended out from 68 days in 2017, to 87 days in 2018.

At the end of the year, 349 continued registration assessments were still under consideration by assessment panels. 133 registrants had yet to submit a portfolio of evidence for reassessment and will have their registration suspended.

## CPEng registration under mutual recognition

46 engineers successfully applied for CPEng under mutual recognition schemes in 2018. Of these 46 CPEng registrants, 8 came via the Trans-Tasman Mutual Recognition Act (TTMRA) and 38 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 2018, there was one appeal against a Registration Authority decision. The appeal related to a candidate's application for continued registration in 2015. There is some concern that given the length of time that has elapsed since this appeal was lodged, the appellants' competence assessment evidence is substantially out of date.

## Competency Assessment Board

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

The Members who served on the Competency Assessment Board during 2018 were:

- » **Stephen Jenkins:** re-appointed in 2017 for two years and Chair for two years, term expires March 2019
- » **Hamish Denize:** re-appointed in 2018 for two years, 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:** appointed in 2017 for two years, term expires March 2019
- » **Kathryn Ward:** appointed in 2017 for two years, term expires March 2019
- » **Branko Veljanovski:** appointed in 2017 for two years, term expires March 2019
- » **Stewart Hobbs:** re-appointed in 2018 for two years, term expires March 2020
- » **Tom Qi:** appointed in 2017 for two years, term expires March 2019
- » **Gijs Hovens:** re-appointed in 2016 for 2 years, term expired in March 2018
- » **John Burden (Governing Board representative):** re-appointed as board representative in 2018 for one year, term expires March 2019.

The Registration Authority has appointed members who are Chartered Professional Engineers and have considered the extent of their experience in, and knowledge of, professional engineering; along with their experience in competency assessments and quality assurance of competency assessments. Consideration has also been given to geographical representation.

## Assessors

The assessment workload during 2018 was comparable to preceding years. While there was a slight reduction in the number of reassessments completed there was an increase in the number of first-time assessments, continuing a recent trend. As noted prior, a decline in Lead Assessor capacity in the second half of 2018 had a negative impact on median processing times and an increase in the number of scheduled reassessments for 2019 makes extending our Lead Assessor pool a key priority in the first quarter of 2019.

**Table 1: Summary of assessor numbers as at end of 2018**

Assessor Type (Current CPEng)	Available
Practice Area	428
Contract Lead	16
Permanent Engineering New Zealand Staff Lead	3
Knowledge	4

## Registration Authority assessment expectations for 2019

Projections for 2019 are for 350 applications from engineers for first-time assessment who will be mainly Emerging Professional Members of Engineering New Zealand, and 750 Continued Registration Assessments.

## Assessor training

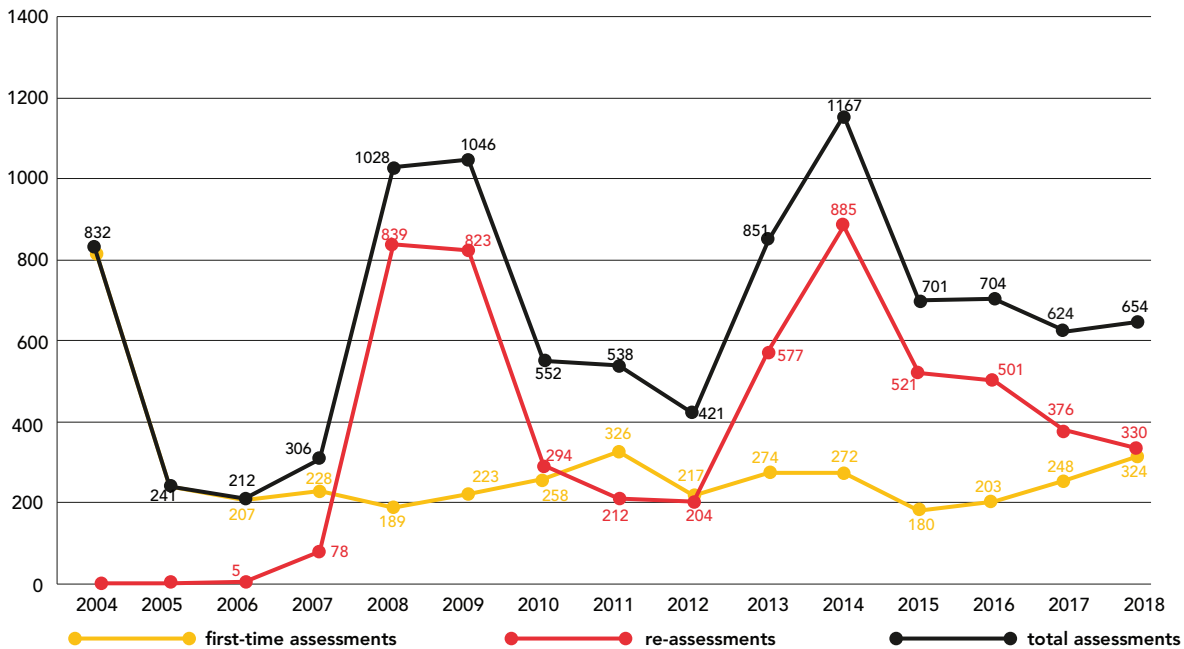
Training of assessors and moderation of assessment decision making continue to be key areas of focus as part of maintaining the rigour and consistency of the assessment process. We expect to run a training session for new Lead Assessors in the first part of 2019 followed by an annual workshop for existing Lead Assessors in April.

## Bodies of Knowledge and Skills (BOKS)

As noted above, another key focus during 2019 will be integration of the structural and geotechnical BOKS into the assessment process. This is also expected to require further training for both Lead Assessors and Practice Area Assessors to calibrate standards and establish a consistent approach to the proposed incorporation of common assessment tasks.

# Register trends

## Registration statistics as required by s. 52(2) of the Act



**Figure 4: Number of assessments processed**

Figure 4 shows an increase in the number of first-time assessments and reduction in the number of reassessments in comparison to 2017. This increase shows the continued perception of importance of CPEng as a quality mark to new recipients. The reduction in completed reassessments is impart impacted by the workload that the increased number

of first-time assessments creates. Another factor which impacted reassessments a decrease in the number of Lead Assessors due to either extended leave or ill health.

Table 2 provides a summary of the registration statistics required by section 52(2) of the Act for the reporting period (2018).

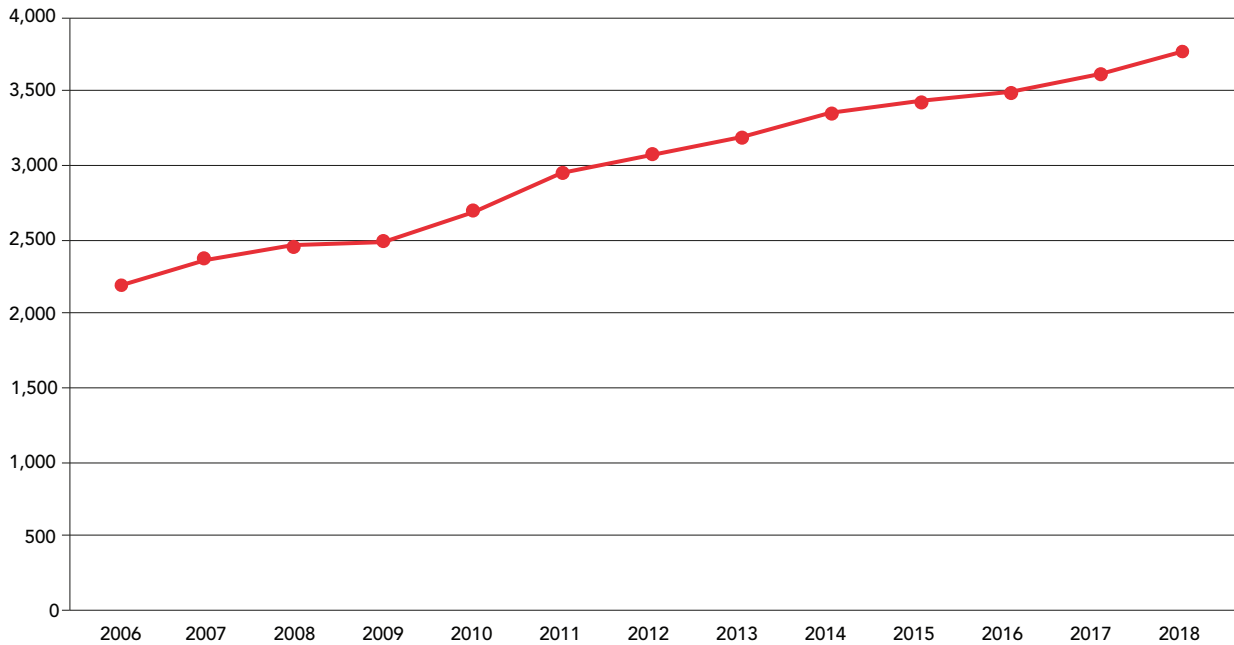
**Table 2: Registration Statistics for 2018**

Registration Statistics for 2018	Number
Chartered Professional Engineers at the end of the reporting period	3,780
Applicants (first) registered during the reporting period	313
Applicants declined registration during the reporting period	11
Registrants resigned or removed during the reporting period (see note 1)	142
Registrants suspended during the reporting period	94
Registrants placed in abeyance during the reporting period	39

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 count of registrants who resigned or were removed from the register during 2018, includes registrants whose registration was already in suspension at the beginning of the reporting period.



**Figure 5: Number of CPEng Registrants**

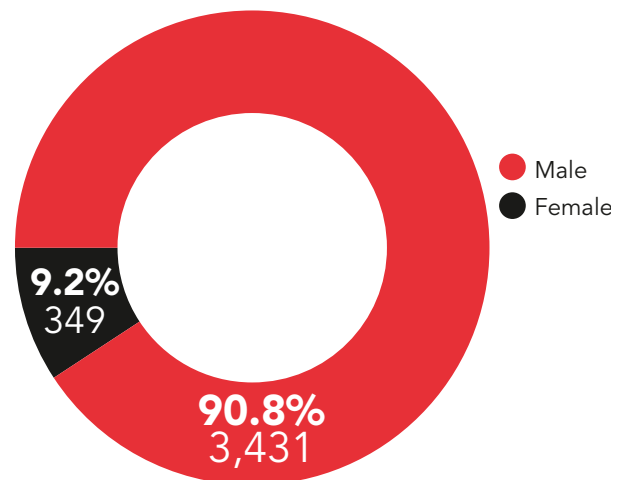
### Age distribution and gender breakdown

The number of female engineers on the register remains low and the percentage of female CPEng registrants has increased by only 3% over the last ten years.

Consistent with the broader targets established as part of the Diversity Agenda, we have a goal of increasing the number of women on the register by 20% 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 2018, encouraging progress had been made and we had 349 women on the register.

Of the 330 first-time assessments completed in 2018, 44 were from women with a success rate of 100% (14% of successful candidates).

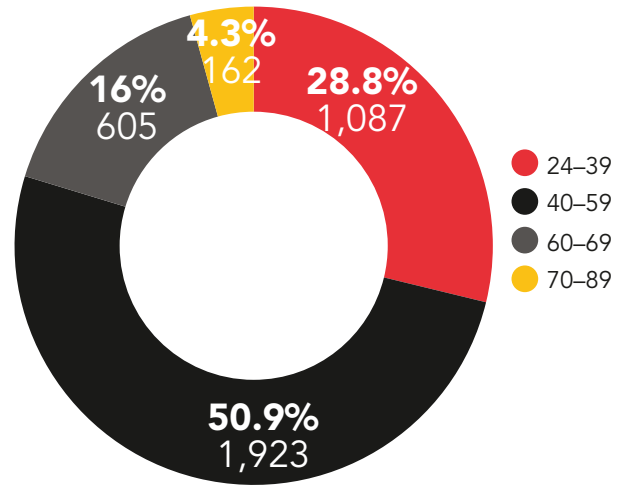
Of the 61 women that were due for a reassessment in 2018, 22 had been completed at year end while 30 re-assessments were still in progress. The remaining nine women chose to resign their registration, highlighting the retention issue that the profession is working to address through the Diversity Agenda.



**Figure 6: Gender (binary) breakdown of CPEng registrants**

While the data in Figure 7 shows a distributed age profile of CPEngs, engineers tend to follow the wider workforce of working longer, with 4.3% of registrants working and contributing to the profession in the 70–89 age bracket.

As with other occupations that have public safety as core to their mandate, the public needs assurance of continued competence and the re-assessment process can provide a means through which this can regularly be assessed.



**Figure 7:** Breakdown of CPEng registrants by age

## Fields of engineering practice

Candidates self-declare one or two practice fields that they consider best aligns 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, we are providing assessors and candidates with guidance 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 2017	Number of CPEng at 31 December 2018	Movement in registration numbers between 2017 and 2018	2018 ranking
Civil	1,471	1,439	-32	1
Structural	1,154	1,199	45	2
Management	590	562	-28	3
Environmental	414	392	-22	4
Geotechnical	331	337	6	5
Transportation	314	323	9	6
Mechanical	298	298	0	7
Electrical	238	248	10	8
Building Services	155	160	5	9
Industrial	120	116	-4	10
Fire	85	91	6	11
Chemical	35	37	2	12
Petroleum	32	36	4	13
Information	23	21	-2	14
Aerospace	13	12	-1	15
Mining	9	8	-1	16
Academic	NA	5	5	17
Bio	3	2	-1	18

## Geographical distribution

Table 4 shows the geographical distribution of CPEng registrants that are also members of Engineering New Zealand. The challenge for any engineers practising overseas will be their ability to demonstrate (depending on their practice area) that they are 'still able to' comprehend and apply knowledge of accepted principles underpinning widely applied good practice for professional engineering specific to New Zealand 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	64	1.8
Auckland	1,358	35.9
Waikato-Bay of Plenty – Hamilton	216	5.8
Waikato-Bay of Plenty –Tauranga	117	3
East Coast	4	0.1
Taranaki	78	2
Hawkes Bay	78	2
Wanganui	11	0.3
Manawatu	44	1.1
Wellington	439	11.8
Nelson-Marlborough	79	2
West Coast	10	0.2
Canterbury	618	16.4
South Canterbury	13	0.3
Otago	120	3.3
Southland	23	0.6
United Kingdom	39	1
No branch*	351	9.2
CPEng Non-members**	118	3
<b>TOTAL</b>	<b>3,780</b>	<b>100%</b>

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

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



# Other CPEng-based or related quality marks

## Design verifiers

At the end of the reporting period, 16 individuals hold certification as Design Verifiers (Pressure Equipment), five individuals hold certification as Design Verifiers (Cranes) and one individual holds certification as a Design Verifier (Ropeways). Some of the individuals who hold Design Verifier certification have two in more than one of the categories of certification (pressure equipment, cranes and passenger ropeways). The low numbers of certified Design Verifiers was discussed with WorkSafe who noted low volumes of certification work in some areas and an intention to review current regulations during 2019.

## International benchmarking

Engineering New Zealand's active involvement with the international engineering community supports the international benchmarking and recognition of the CPEng quality mark. Key relationships relating to engineering education and competence standards are fostered through Engineering New Zealand's membership of the various Accords and Agreements under the International Engineering Alliance.

Active liaison is maintained with Engineers Australia with a view of identifying areas where co-operation may improve efficiencies in assessment processes.

During the year we re-signed a revised Admission Pathways Agreement with the Engineering Council (UK).

## Summary of responses to CPEC recommendations

In its 2017 report CPEC raised a concern over the gender imbalance within the engineering profession. Engineering New Zealand throughout 2018 have employed a comprehensive communications strategy to collaborate with engineering firms who have established diversity and inclusion programmes to raise awareness and the ability to share best practice. A resource kit of tools and information for those engineering firms struggling to understand and implement diversity initiatives has also been developed.

Engineering New Zealand has also established the Diversity Agenda, a cross-industry initiative with NZIA and ACENZ. The programme aims to connect all women engineers and create a broad and compelling movement that encourages women into the profession. Diversity and inclusion are often discussed across Engineering New Zealand's channels such as through social media, events and *EG* magazine.

# Complaints and disciplinary activity

During 2018, the Registration Authority continued to embed 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 we 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 2018, we've used the toolkit to educate engineers on why complaints matter and how to best resolve them. This included presentations to Auckland and Canterbury University Students on ethics, complaints and professionalism (the presentation to Canterbury University students was recorded and is now a resource available on YouTube for engineers' education). We also presented on successful complaints management to Engineering New Zealand branches around the country, including Auckland, Wellington and Dunedin.

## Decision maker capability

We continue to work closely with our decision-makers to ensure robust, fair and proportional decision-making. We've recruited two more Chairs of Investigating Committees to increase our capability for more efficient resolution, which brings us to a total of eight Chairs of Investigating Committees and three Chairs of Disciplinary Committees.

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.

# Complaints snapshot

## Concerns/complaints received

43<sup>1</sup> concerns/complaints about Chartered Professional Engineers were received during the 2018 calendar year. This is three more than in 2017.

## 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; 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.

36 concerns/complaints about Chartered Professional Engineers were closed in the 2018 calendar year – the same as for the 2017 year. This includes concerns/complaints received both during and prior to 2018. Figure 8 shows the manner of resolution for these concerns/complaints.

Three disciplinary hearings took place in 2018. In one of those cases the complaint was dismissed by the Disciplinary Committee. As at 31 December 2018, the Disciplinary Committees' decisions on the other two complaints were pending.

As is evident, we are continuing to have significant success resolving concerns directly between the parties through our early resolution process. This has greatly improved the efficiency of our decision-making. Concerns closed through our early resolution process took, on average, four months to resolve. In contrast, complaints that proceeded through our formal process took, on average, 14 months to resolve

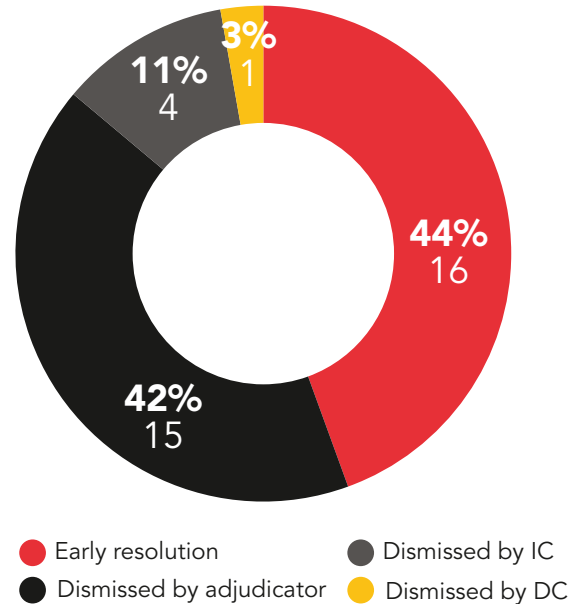


Figure 8: Manner of resolution

Satisfaction with concern/complaint outcomes is also evident in the low number of appeals lodged against the Registration Authority's decisions. In 2018 four appeals were lodged with the Chartered Professional Engineers Council against complaint decisions of the Registration Authority. Two appeals were dismissed, one was upheld, and one is pending decision. Although this is double the number of appeals in 2017 (when there were two), overall the numbers are still low. The upheld appeal was the first appeal to be upheld in at least three years.

<sup>1</sup>Some complaints involve more than one Chartered Professional Engineer, but for our purposes we count number of complaints received.

## Themes and trends

The 36 concerns/complaints closed in 2018 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

As with in 2017, most concerns/complaints are primarily about the adequacy of engineering design or assessment. Professional or ethical behaviour includes complaints about conflict of interest, and the attitude and response of engineers. Almost all complaints include an element of communication breakdown between the parties.

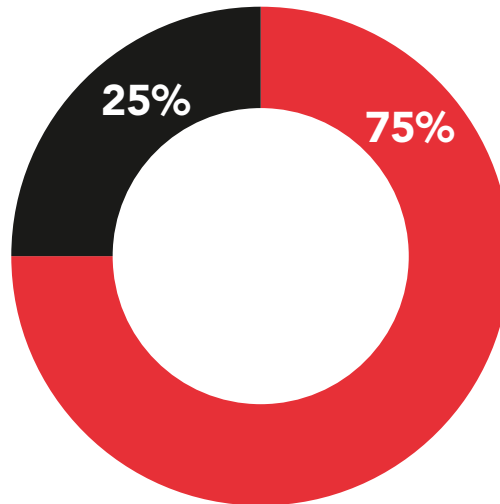
### Practice fields

Consistent with previous years, most complaints we receive are about structural engineers. There are many reasons why a structural engineer may 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.

Ten of the 33 complaints closed about structural engineers related to structural engineering work tied to Canterbury earthquake insurance claims.

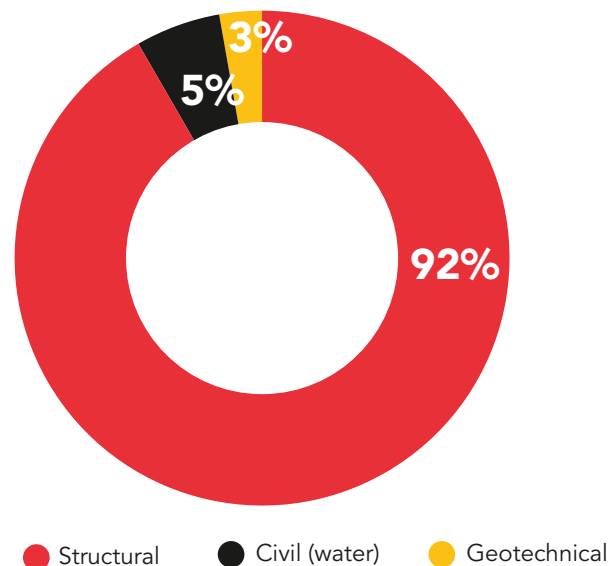
From July to December 2018 we worked with the Government to establish an engineering service to support the resolution of insurance claims by the Government's new Greater Christchurch Claims Resolution Service (GCCRS). We are working with engineers practising in this area to improve engineering quality and we have established a panel of experts to help advise and assist the GCCRS with the engineering aspects of claims resolution.

Our work on the GCCRS was a direct response to what we were seeing through complaints, and a great example of how we are using the lessons learned from our concerns and complaints process to build trust and confidence in the profession. We're confident our work with the GCCRS will provide a more appropriate and efficient process for resolving most of these concerns.



- Inadequate design or reporting
- Professional or ethical behaviour

Figure 9: Key complaint issues



- Structural
- Civil (water)
- Geotechnical

Figure 10: Fields of practice

## **Own motion inquiry**

In December 2016, Engineering New Zealand commenced an Own Motion Inquiry into the engineering design of six buildings in Masterton. The Inquiry has two parts. The Registration Authority's responsibility is to investigate matters as they relate to individual engineers, and three engineers are being formally investigated in relation to the inquiry. But, engineers are part of a system and it is important that the Inquiry understand the relevant context at an individual, system and sector-wide level. Although we had hoped to conclude the inquiry in 2018 it is ongoing. We now expect to complete the Inquiry in 2019.

## **Enquiries**

The Complaints Resolution Team also receives enquiries from engineers and members of the public about the ethical obligations of engineers and the complaints resolution process. These enquiries may involve multiple contacts and often require action such as reviewing information and advising the enquirer on options or providing a written response. Enquiries are not classified according to whether the engineer concerned is a Chartered Professional Engineer or member of Engineering New Zealand. Consistent with previous years, the Complaints Resolution Team responded to more than 120 enquiries in 2018.

# 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

### Alternative dispute resolution

A member of the public engaged a structural engineer to provide engineering calculations, sketches and documentation for their house renovation and deck. The member of the public raised concerns with the Registration Authority that the engineer did not adequately supervise the junior engineer working on the project and behaved inappropriately by failing to respond to the complainant's concerns and requests for a copy of the geotechnical report. The complainant believed the engineer had a cavalier attitude regarding their obligations to clients.

The engineer disagreed with parts of the client's account of events, and a claim in the Disputes Tribunal made the relationship between the parties even more strained.

After Triage, we asked the parties if they would like to attempt to resolve the concerns using our early resolution process. With their agreement, the complaint was referred to mediation. At the mediation the parties agreed a settlement whereby the engineer agreed to undertake professional development and audit. The client entered our process with a negative view of the engineer, their business and the profession. The mediation and the engineer's positive approach to resolution rebuilt that trust. The client told us:

**"The outcome was, for me, totally unexpected. And the real outcome – a genuine shift in both mine and the engineer's view of each other – was profound. I now have huge respect for the engineer. What they faced fully and then did has enormous mana."**

This resolution took less than six months.

## CASE STUDY TWO

### **Complaint resolved by the parties**

A structural engineer designed and signed off foundations for a home. The owner of the home raised concerns with the Registration Authority that their house suffered excessive movement under normal conditions and wind loads. The owner was concerned that the problem was caused by the engineer. The owner believed the engineer's design drawings were inaccurate and of poor quality with regard to specifying the required earthworks to meet the design; the engineer did not carry out adequate site supervision and inspection; and the design spreadsheet for the foundations contained errors. The owner expressed a desire for the complaint to be used as an educational opportunity for the engineer, and asked us to assist in mediating with the engineer.

The engineer confirmed that he was engaged to design the foundations for the new dwelling. The engineer said that the owners project-managed aspects of the installation including the critical provision of earthworks required to accurately position the dwelling for the height in their final chosen location. The engineer said that, because of the earthworks required to position the home, it was located too high in relation to the pile design. The engineer conceded that he had some responsibility for this issue and had been attempting to resolve this with the owners. However, the owner's correspondence with the Registration Authority was the first time that he was aware of their concern about structural inadequacy.

The engineer checked the calculations for the building in its final position and agreed with the client that the home needed further bracing for wind loading given its final position. The engineer contacted the owner and arranged to have the bracing installed.

The owner advised the Registration Authority that the engineer's response resolved their concerns. The Registration Authority wrote to the engineer and encouraged them to use this case as a learning opportunity and to reflect on how they might be able to prevent similar concerns being raised in the future. The file was then closed.

This resolution took just over two months.

## CASE STUDY THREE

### Complaint dismissed

A territorial authority engaged an engineer to undertake a reconnaissance inspection and report on the causes of a sequence of slips that had occurred on a slope within a road reserve.

The engineer concluded that the slips appeared to have been caused by surface and possibly sub-surface flows of stormwater discharging over the slope, and noted that the area at the top of the slope (on private land) had been modified with the construction of a driveway, fences and a garden area. The engineer's view was that the modification may have changed the path of the surface water flowing through the area and may have also changed the permeability of the ground surface, increasing infiltration of water into the ground. The engineer said he was unable to verify if these factors were contributing to the slips. He recommended a cut-off drain located down the side of the driveway to prevent the surface water discharging over the edge of the slope, which was likely to help prevent further slips occurring.

The owner of the private land that had been modified complained to the Registration Authority about the engineer's investigations and report. The owner expected that the engineer's report would have featured fieldwork and cross-checking from a geotechnical engineer and input from a structural engineer regarding the issue of stabilising the bank. The owner considered the engineer should have done this whether or not it was within the parameters of his brief from the territorial authority. The owner considered that had the engineer done a proper investigation he would have realised that the issue was related to a neighbour's property.

Following an initial investigation, the complaint was referred to an Adjudicator to decide whether to dismiss the complaint or refer it to formal investigation. The Adjudicator noted the engineer's limited brief and that the engineer had been specifically instructed not to enter the owner's property. The Adjudicator found that the engineer appeared to have fulfilled the brief in a careful and competent manner. The Adjudicator dismissed the complaint on the ground that it was insufficiently grave to warrant further investigation. This complaint took eight months to resolve.



# Appendix 1

## CPEng fees for 2018 (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 2018

	\$
<b>Revenue from annual CPEng fees, fines and admission applications</b>	<b>1,835,466</b>
<b>Less:</b>	
Operational costs	870,803
Professional standards costs	989,833
Complaints and litigation costs	56,008
<b>Total Expenditure</b>	<b>1,916,644</b>
<b>Net Deficit</b>	<b>81,198</b>

### Notes:

1. All figures are for the year ended 30 September 2018 and are taken from The Institution of Professional Engineers New Zealand (trading as 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 \$81,198 compares unfavourably to last year's surplus of \$173,870. The unfavourable movement is due largely to an allocation of the write-off of the member/registration database, and rising salaries and overheads, while all registration fees and charges remained unchanged.

There is a carried forward deficit of \$1,110,607 after this year's result.





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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).

