



**REGISTRATION
AUTHORITY**
FOR CHARTERED PROFESSIONAL ENGINEERS

Mutual Recognition Assessments

June 2024

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Introduction

This document provides specific information for applicants applying for CPEng via the Mutual Recognition pathway. This document should be read in conjunction with the 'Let's get you Chartered' guide on Engineering New Zealand's website.

The Mutual Recognition application form is also used when a current CPEng Registrant is adding a field to their registration. If you are completing your application to add an additional field, please ensure that you provide sufficient evidence to demonstrate your competence in the new field across all 12 competency elements required for CPEng registration. Please read the 'Let's get you Chartered' guide on Engineering New Zealand's website.

Chartered options

Membership or Registration?

There're two ways to become Chartered as a professional engineer – through Engineering New Zealand membership as a Chartered Member (CMEngNZ) or through registration as a Chartered Professional Engineer (CPEng). Our Chartered Member class provides a general quality mark of professionalism along with all the benefits of membership. CPEng registration provides a mark of current New Zealand specific competence based on legislation. You can be both a Chartered Member and CPEng, or just one.

Chartered Professional Engineer (CPEngNZ) Registration	Chartered Member of Engineering New Zealand (CMEngNZ)
Assesses engineering competence to an internationally recognised standard, with current New Zealand specific competence.	Quality mark of general competence and professionalism, assessed to an internationally recognised standard.
Re-assessed at least every six years. Commits to the CPEng Code of Ethical Conduct . Meets annual CPD requirements.	Assessed once, with annual commitment to ongoing professional development and ethics .
May be required if your work involves signing off consents, or certifying work under a New Zealand regulatory regime. Only CPEngs may sign Producer Statements in New Zealand .	More accessible for engineers practising overseas, and provides direct entry for engineers who have been assessed in an equivalent overseas jurisdiction - e.g. CEng (UK), CPEng (Australia) or PEng (USA). May not sign Producer Statements in New Zealand.
You must be able to demonstrate your knowledge and application of accepted principles underpinning good practice for professional engineering that is specific to New Zealand. Must cover understanding of current New Zealand good engineering practice, as well as showing current competence.	You can be assessed for Chartered Member first and complete a significantly shorter mutual recognition assessment to apply for CPEng, once you have New Zealand engineering work experience.

Engineering New Zealand also has Chartered membership categories for Engineering Technologists and Engineering Technicians which provide recognition for engineering professionals in these important occupational roles. You can find out more about Chartered Technologist and Chartered Technician memberships [here](#).

Applying for CPEng via Mutual Recognition

Engineering New Zealand currently maintains several mutual recognition agreements with different countries, which are publicly available on [our website](#).

Engineering New Zealand offers Mutual Recognition Assessments (MRA) as an expedited pathway to CPEng registration for professional engineers registered with a recognised organisation. The MRA focuses on Competency Group 1 (Engineering Knowledge), which includes three elements from the CPEng Rules:

- 1.1 Comprehend, and apply your knowledge of accepted principles underpinning widely applied good practice for professional engineering.
- 1.2 Comprehend, and apply your knowledge of accepted principles underpinning good practice for professional engineering that is specific to New Zealand.
- 1.3 Maintain the currency of your professional engineering knowledge and skills.

The main focus of the MRA for international applicants is to evaluate:

- » New Zealand specific knowledge (element 1.2 above), and
- » Current competence, recognising element 1.3 above and the requirement within the CPEng Act for CPEng's to be reassessed and demonstrate current competence at least every 6 years.

Applying for Chartered Membership via Mutual Recognition

If you are currently registered as a engineering professional with a [recognised international body](#), you may automatically qualify for Chartered Membership with Engineering New Zealand in the equivalent Chartered Membership category. Get in touch with our membership team who will be able to answer any questions you may have: membership@engineeringnz.org.

Defining the CPEng standard

What the Rules say

CPEng Rule 6(2)(a)(ii) states that one of the minimum requirements for CPEng registration is your ability to

- a) Comprehend, and apply your knowledge of, accepted principles underpinning –
 - i) widely applied good practice for professional engineering; and
 - ii) good practice for professional engineering that is specific to New Zealand

Your application for CPEng must demonstrate your ability to apply your knowledge of accepted principles that are specific to New Zealand.

Defining New Zealand specific competencies for professional engineers

In the New Zealand context, the key competencies below are relevant to professional engineers¹:

1. Knowledge, understanding of technical design principles specific to New Zealand:

- 1.1 Understanding seismic design requirements and being able to demonstrate seismic design and knowledge using recognised New Zealand specific codes and regulations.
- 1.2 Understanding New Zealand specific seismicity, geology, and geomorphology considerations.
- 1.3 Understanding New Zealand specific climate considerations.
- 1.4 Understanding of other discipline specific technical design principles specific to New Zealand.

2. Knowledge and understanding of New Zealand codes and regulations:

- 2.1 Understanding of the principles of consenting processes in New Zealand.
- 2.2 Familiarity with the Building Act and associated regulations.
- 2.3 Understanding of discipline-specific laws and other relevant general legislation, regulations, and guidelines in New Zealand. For example, the Resource Management Act, the Health and Safety Act (2015), the Building Act and Licenced Building Practitioner Regulations, the Civil Defence Emergency Management Act, etc.

3. Knowledge and understanding of Māori cultural considerations:

- 3.1 Appreciation for the principles of Te Tiriti o Waitangi (Treaty of Waitangi).
- 3.2 Awareness of cultural protocols and engagement with Māori communities.
- 3.3 Willingness to incorporate Mātauranga Māori (Māori knowledge) in engineering practice.

4. Ethics

- 4.1 Understanding of the differences between the Chartered Professional Engineer's Code of Ethics in comparison with the ethical code they have worked within in their home jurisdiction.

¹ Please note that some of the competencies listed below are discipline specific, meaning that not all applicants will be expected to demonstrate knowledge of all competencies.

Application evidence portfolio requirements

The evidence you submit for demonstrating comprehension and application of New Zealand specific knowledge should include:

Engineering Practice Fields

If you're applying for CPEng for the first time, you may only apply for registration via the Mutual Recognition pathway within the field(s) in which you are currently registered, or the closest New Zealand equivalent field. See [Appendix 2](#) for the current list of practice fields.

Suitable referees

You will need to nominate two referees for your application. We will send an invitation to your referees to provide a reference for you. If they accept the invitation, they'll be asked to provide information about your technical competence and professionalism. If a referee declines your request, you'll need to provide another person. [Guidance for referees](#) can be found on our website.

DEFINING ACCEPTABLE REFEREES

Both referees need to be current CPEng or equivalent². Your referees must be familiar with your technical and professional capabilities and be able to confidently provide a reference. They should also be competent in the practice area for which you applying and familiar with your technical skills.

✓	<p>Two referees provided. In accordance with the Rules, these must be CPEng registered engineers or equivalent.</p> <p>Ideally at least one referee who does not work within the same company as you.</p> <p>The referee could be someone who has peer reviewed work samples or been involved in a collaborative project with you.</p> <p>Ideally the referees should have knowledge and understanding of the New Zealand context to be able to recommend you for CPEng registration.</p>
✗	<p>A referee who is not familiar with your technical skills.</p> <p>Referees who are conflicted in that they have a personal relationship with you or have a financial interest in the outcome of the assessment.</p>

In addition to being able to confirm your technical competence, your referees need to be able to:

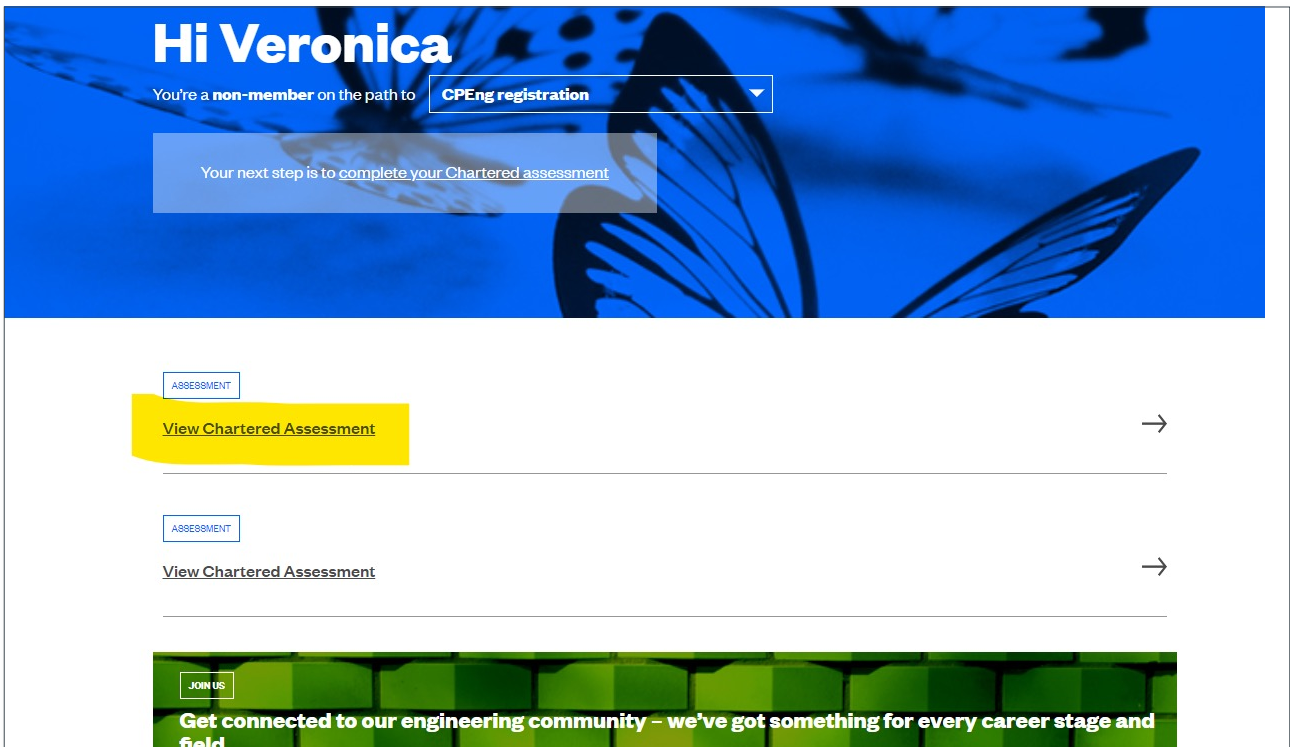
- » Confirm your work history.
- » Tell us about your professional ethics, particularly whether you can be relied upon to practice within your area of competency.
- » Tell us how you have gained a suitable level of local knowledge and compliance with local regulations in your current jurisdiction.
- » Tell us how you incorporate cultural considerations in your current jurisdiction.

² CPEng equivalence means a qualification or title that the Registration Authority determines requires the holder to: (a) have demonstrated competence at least equivalent to the minimum standard for registration under these rules; and (b) be bound by a code of ethical conduct that is substantially equivalent to the code of ethical conduct under these rules. Examples of CPEng equivalence, therefore, include: A Chartered Member of Engineering New Zealand (CMEngNZ) who is not classified as an Engineering Technician (CMEngNZ (Engineering Technician)) or an Engineering Technologist (CMEngNZ (Engineering Technologist)); a Chartered Engineer (CEng) registered with the Engineering Council in the UK.

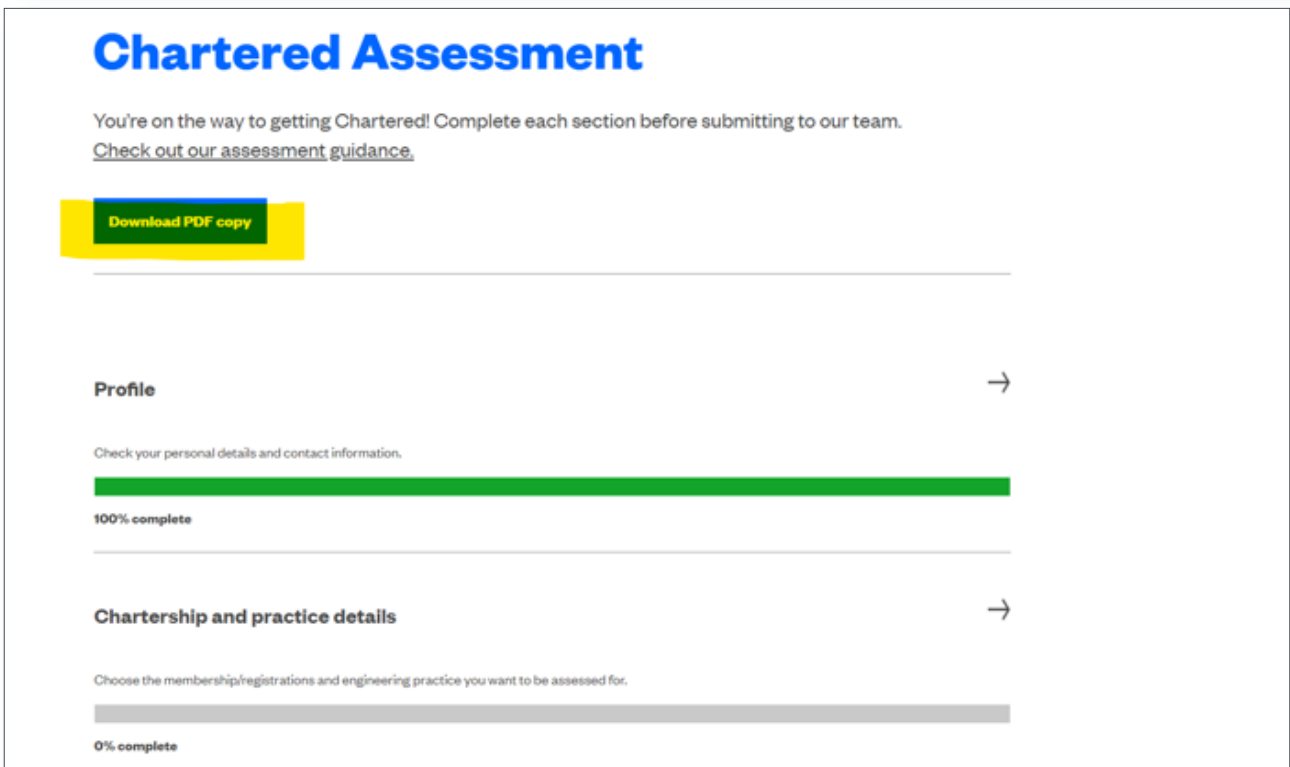
REFEREE DECLARATION FORM

When you have completed all sections of the application form and are ready to submit, your final step will be to ask one of your referees to review your application portfolio and complete the [referee declaration form](#). This form must be uploaded with your application, in the CV section.

To do this, go to your complete application and click 'Download PDF Copy' as shown below:



The screenshot shows a user dashboard for Veronica. At the top, it says "Hi Veronica" and "You're a non-member on the path to CPEng registration". A message box states "Your next step is to complete your Chartered assessment". Below this, there are two "View Chartered Assessment" buttons, each with an "ASSESSMENT" label and a right-pointing arrow. At the bottom, there is a "JOIN US" button and a green banner that reads "Get connected to our engineering community - we've got something for every career stage and field".



The screenshot shows the "Chartered Assessment" page. It features a blue header with the title "Chartered Assessment". Below the title, it says "You're on the way to getting Chartered! Complete each section before submitting to our team." and provides a link to "Check out our assessment guidance". A yellow button labeled "Download PDF copy" is highlighted. The page lists two sections: "Profile" (100% complete) and "Chartership and practice details" (0% complete). Each section has a right-pointing arrow and a progress bar.

Send the copy of your complete application together with the referee declaration form, to your chosen referee, and then upload the signed letter to the CV area of your application, before submitting to us.

CPD Records

Your CPD records must demonstrate participation in activities, courses and/or events that would provide you with knowledge of New Zealand specific design principles, local codes, regulations and cultural competence demonstrating the requirements for registration under the Mutual Recognition Assessment pathway. CPD must be completed to show evidence that you have taken reasonable steps to maintain the currency of your professional engineering knowledge and skills within your current practice area over the past six years or since graduation.

DEFINING ACCEPTABLE CPD

You need to have done at least 40 hours of CPD per year over the past six years or since graduation. If applying for more than one practice field, you will need an additional 15 hours per year of CPD for each additional practice field³.

- ✓ Engagement with local technical group e.g. attending technical group meetings or suitable courses.
- ✓ Courses on cultural competency relevant to New Zealand.
- ✓ Courses or reading on New Zealand specific technical design principles.
- ✓ Courses or reading on New Zealand codes and regulations.
- ✓ Evidence of learning linked to the application of contemporary knowledge of the engineer's practice area.
- ✓ CPD activities across different categories (we recommend at least 15 hours related to each of their practice fields, a few hours addressing risk management and business processes, courses on professional ethics, cultural competency, and then a range of activities across career interests).
- ✓ CPD can be tertiary courses, short courses, workshops, seminars, discussion groups, conferences, technical inspections, and technical meetings that are non-routine and contribute to your development as an engineering professional. Private study and service to the engineering profession can also be counted towards CPD.
- ✓ Where applicable, relevant seminars hosted by a Collaborating Technical Society (CTS).
- ✗ 40 hours of 'on the job reading'.
- ✗ 40 hours of 'mentoring'.

If you have been on a career break that we need to know about, please make this clear in the self-assessment area of your application.

WHAT IS AN EXAMPLE OF GOOD CPD?

A good mix of CPD is a requirement and your CPD activities must demonstrate your new learnings in your chosen practice area. The table below sets out the ideal mix of CPD for CPD applications:

CPD Areas	Recommended hours
Technical » Attending recognised technical group meetings, external or internal technical training courses and/or technical conference papers. » Developing new technical standards or revising technical codes. » Preparing and presenting papers at conferences, and presenting technical training courses.	No upper limit on number of hours. Minimum 15 hours of technical CPD activities per practice field.
Professionalism eg courses on professional ethics, cultural competency, climate, sustainability and others.	Minimum 2 hours (5% of total).
Business/Leadership eg Commercial Training Project Management, 3910 Contracts, business management skills, managerial training.	Maximum 20 hours (no more than 50% of your total).
Professional engineering engagement/contribution to the profession eg mentoring, guiding, assessment of others, service on branch committees, accreditation panels.	Maximum 8 hours (no more than 20% of total).
Training courses in Health and Safety including requirements of the Act, First Aid, Site Safe, restricted access training. Delivering such courses. Development of Health and Safety procedures.	Maximum 5 hours (no more than 13% of total).

³ The requirement of an additional 15 hours of technical CPD activities per year, per additional practice field, applies to CPD activities from 1 January 2023.

WHAT COUNTS TOWARDS MY CPD?

CPD can be tertiary courses, short courses, workshops, seminars, discussion groups, conferences, technical inspections, and non-routine technical meetings that contribute to your development as an engineering professional.

Self-learning, which could comprise a mixture of self-reading, self-research, watching technical informative videos, can also be counted towards CPD – but this should be no more than 50% of your total CPD for each year.

WHAT ARE ASSESSORS LOOKING FOR?

CPD review questions.

- » Is there evidence of a planned approach to continuing professional development?
- » Has the engineer completed 40 hours of CPD each year? Are the CPD records provided diverse and broad?
- » Is the CPD relevant to the engineer's practice area?
- » Is the CPD considered sufficient for the engineer to have maintained currency of knowledge?
- » Have all areas in CPD records been completed? (ie learning outcomes have been populated)

SELF-ASSESSMENT

The self-assessment statement must provide details as to the work you have done to familiarise yourself with the New Zealand context.

Defining an acceptable self-assessment statement.

- » Explain how you meet the standard for registration in terms of comprehending and applying knowledge of good practice for professional engineering that is specific to New Zealand.
- » Reference the codes and regulations that apply to your discipline in the New Zealand context; explain your understanding of these and how they'd impact your approach/engineering practice.
- » Provide an explanation of your understanding of Te Tiriti o Waitangi and how this may apply to your work in New Zealand.
- » Discuss the social, cultural, and environmental impacts to consider in New Zealand projects within your discipline.
- » Discuss key recent developments (knowledge, tools, technologies, regulations) within your practice area

IMPORTANT: It is not sufficient to write broad or sweeping statements about the New Zealand context. You need to provide specific examples of work you have done that demonstrates you understand and apply New Zealand specific good practice for professional engineering. Also please take note of our [AI policy](#).

Work Samples

You will need to provide at least two recent⁴ work samples that show New Zealand specific knowledge and evidence of current good practice. For each work sample provided, you must provide detailed written statements as to how the work sample provided has been/would need to be done in the New Zealand context. Work samples that are provided should be clear and professionally presented so that an assessor can clearly confirm you meet the competence requirement of knowledge and application of New Zealand specific good practice for professional engineering.

Please note we require evidence of the work you reference in your application – simply writing up a summary of work you have done is insufficient. The Assessor should be able to easily verify that the evidence presented is your own work.

IMPORTANT: Simply referencing New Zealand codes is not sufficient demonstration of your knowledge and application of New Zealand specific good practice for professional engineering.

⁴ 'Recent' means work samples from the past 6-years.

Defining acceptable evidence

- » Provide sufficient recent⁵ evidence to demonstrate current competence in your practice area. This should be a minimum of 2 samples.
- » For each sample you provide, clearly state how the sample demonstrates knowledge and application of good practice of professional engineering in New Zealand.
 - For example, if the sample is from New Zealand related work done overseas, clearly state how New Zealand codes and regulations overseas were applied and how you keep up with the relevant changes to those codes and regulations. If the samples are related to overseas codes, you need to state how they differ from those in New Zealand, and how you would approach the work differently in New Zealand.
 - Clearly state the cultural considerations you would need to apply in New Zealand.
 - For any additional overseas work samples, clearly state any other local New Zealand considerations you'd incorporate in this work, were it to be done in New Zealand.
 - Describe how they demonstrate the application of current tools, techniques, materials etc
- » The work samples provided must clearly show this as being your own work.
- » Drawings or calculations with no supporting documentation is insufficient.
- » Pages of printed spreadsheets with unclear calculations or derivations is insufficient.
- » Vague references to New Zealand codes or regulations is insufficient.



Tips for success

- » When writing up your submission remember to talk about yourself using 'I', 'me' or 'my'. The assessors don't want to know what the team did as part of a project – they're only interested in your involvement.
- » Remember, it is up to you to demonstrate you are competent. Although the assessors will come back to you if they find any gaps in your evidence and give you the opportunity to provide further evidence, it is not their role to interrogate you to determine your competency.
- » Clearly explain how each of your work samples demonstrates your knowledge and application of New Zealand specific good practice for professional engineering. Be specific and avoid broad sweeping statements or vague references to codes and regulations.
- » Ensure that you provide work samples to support your application in all of the fields you are applying for.
- » Your evidence must support all the words in your PAD.

⁵ 'Recent' means work samples from the past 6 years.

Work history (CV)

Your work history⁶ must be provided in the form of an up-to-date CV.

In this area of the application form, you must also upload your completed Referee Declaration Form([Appendix 1](#)), together with a valid ID document.

DEFINING ACCEPTABLE WORK HISTORY

Where possible, your CV should be no more than three pages and should allow an assessor to see your area of practice since you graduated.

- ✓ Provide the name and location of employing organisations, as well as the dates and duration of employment, the title of your position, details of your role and how your work demonstrates your competency as a professional engineer.
- ✓ Provide sufficient work history to demonstrate the broad scope of competency required for your practice area.
- ✓ Clearly describe projects you were involved in, and your role in the team, with a particular focus on the period since your last assessment.
- ✓ Provide a recent photograph of yourself so that assessors can confirm your identity at the interactive interview.
- ✗ A list of projects you have worked on with no information on your roles and responsibilities.

WHAT IS AN EXAMPLE OF A GOOD CV?

See [Appendix 3](#) for CV templates you can use to document your work history.

WHAT ARE ASSESSORS LOOKING FOR?

Work history review questions

- » Has the engineer provided work history for the period since their last assessment/graduation?
- » Does their work history align with their practice area?
- » Does the work history detail the projects they have been involved with? Does the work history detail their role and responsibilities in each project?
- » Does their work history demonstrate successful completion of complex engineering work in their practice area?
- » Does their work history demonstrate ongoing involvement in the profession?

ID VERIFICATION REQUIREMENTS

To enhance security measures and safeguard against identity fraud, you must provide us with a valid photo identity document together with your application, which should be loaded in the CV area of the application form. The image quality should be clear enough for assessors to read all of the information on the ID.

Accepted IDs include:

- » New Zealand Passport
- » New Zealand Drivers License
- » New Zealand Firearms License

The following documents are also accepted if they include your full name, date of birth, and photo:

- » Overseas Passport
- » National Identity Card

During the interactive session, the Lead Assessor will verify the provided information, so you should have your ID readily available.

Please also ensure you have a functional webcam turned on throughout the interactive assessment.

⁶ Engineering New Zealand reserves the right to verify your work history.

Interactive assessment

The interactive assessment will include New Zealand specific questions to verify your local understanding. The Assessment Panel will also ask you questions to confirm that you are still competent to practice independently as registered CPEng from the date of your registration, should your application be successful.

Questions could include:

- » Direct questions to verify knowledge of New Zealand-specific design principles, local codes and regulations and your understanding of the context within which they are being applied.
- » Open questions about the work samples provided and how they would be done in the New Zealand context.
- » Discussion around the assessment of cultural impacts in relation to projects done in New Zealand, and how you'd communicate those with relevant/affected parties.
- » Your understanding of the CPEng Code of Ethical Conduct

Please note that all interactive assessments are conducted via videoconference and will require you to have a working webcam. Interactive assessments are also recorded for quality assurance purposes. Recordings are securely stored on Engineering New Zealand's server for a period of three months, or until the assessment process is concluded.

The recording of interactive sessions serves to uphold the integrity of our assessment procedures and provides essential evidence in the event of an appeal. Engineering New Zealand is committed to adhering to the regulations outlined in the Privacy Act 2020 throughout this process.

Additional field specific requirements

If you are applying for registration via Mutual Recognition in the Structural, Geotechnical, or Fire practice fields you will also need to provide either:

- » Recent⁷ New Zealand work samples; OR
- » Two New Zealand based CPEng referees⁸; OR
- » A letter from a Building Consent Authority endorsing your application; OR
- » A letter from a Technical Group endorsing your application.

If you are planning to apply for registration in the structural field, clear evidence of training in, and application of, seismic engineering design principles is an important consideration. Completion of a New Zealand taught master's programme would be an excellent way to strengthen your application in this area. An example of a recommended programme is the [Master of Earthquake Engineering](#) offered by the University of Auckland.

Please note that we may request these or other additional requirements for applications for registration in other fields.

⁷ 'Recent' is defined as work samples from the past 6 years.

⁸ The nominated CPEng referees need to have gone through at least one CPEng reassessment. They also need to be able to provide a reference on your technical competence.

Appendix 1: Referee Declaration Form

A downloadable version of this form is available on [our website](#).

Name of applicant _____

Membership number or date of birth _____

Referee details

Name	
Job title	
Company name	
Email	
Relationship to applicant	

Referee declaration

- I confirm that I have sighted the portfolio of evidence and, to the best of my knowledge, this is a true account of the applicant's work experience.
- I understand that Engineering New Zealand may contact me directly if they have any questions regarding the applicant's evidence or my verification of it.
- By submitting this report, I understand and acknowledge that my report will be used and retained by Engineering New Zealand for assessment purposes.

Referee signature _____ Date _____

Appendix 2: Engineering Practice Field Descriptions

Engineering practice fields are loosely defined terms and are used as an indication of the nature of engineering work carried out by engineers in a certain field.

AEROSPACE ENGINEERING

Aerospace engineering is the design, development, and production of aircraft (aeronautical engineering), spacecraft (astronautical engineering) and related systems. Aerospace engineers may specialise in aerodynamics, avionics, structures, control systems or propulsion systems. It may involve planning maintenance programmes, designing repairs and modifications and exercising strict safety and quality controls to ensure airworthy operations.

BIOENGINEERING

Bioengineering draws heavily on the Chemical engineering discipline and involves the engineered development of raw materials to produce higher value products, using biological systems (biological catalysts). The description also encompasses the general application of engineering to biological systems to develop new products or solve problems in existing production processes. As examples, bioengineers are found in medical research, genetic science, fermentation industries and industries treating biological wastes.

BUILDING SERVICES

Building Services engineering is the application of mechanical or electrical engineering principles, and an understanding of building structure, to enhance all aspects of the built environment from air conditioning and mechanical ventilation, electrical light and power, fire services (e.g. sprinklers and alarms), water and waste services, data and communications, security and access control, vertical transportation, acoustics and energy management.

CHEMICAL ENGINEERING

Chemical engineering is concerned with the ways in which raw materials are changed into useful and commercial end products such as food, petrol, plastics, paints, paper, ceramics, minerals and metals. Often these processes are carried out at large scale plants. Research of raw materials and their properties, design and development of equipment and the evaluation of operating processes are all part of chemical engineering.

CIVIL ENGINEERING

Civil engineering is a broad field of engineering concerned with the, design, construction, operation and maintenance of structures (buildings, bridges, dams, ports) and infrastructure assets (road, rail, water, sewerage). The Civil engineering discipline underpins several engineering fields such as Structural, Mining, Geotechnical and Transportation engineering, in which civil engineers often specialise. General Civil engineers are likely to be competent to undertake work that relates to one or more of these areas.

CONSTRUCTION ENGINEERING

Construction engineering is a specialty field of civil engineering concerned with the oversight and management of large-scale infrastructure and building projects. Construction engineers coordinate design, plan, schedule and apply cost control oversight to complex projects to ensure environmentally sound, safe and efficient construction.

ELECTRICAL ENGINEERING

Electrical engineering is the field of engineering which deals with the practical application of electricity. It deals with the aspects of planning, design, operation and maintenance of electricity generation and distribution, and use of electricity as a source of energy within major buildings, industrial processing complexes, facilities and transport systems. It includes the associated networks and the equipment involved such as switchboards, cabling, overhead lines/catenaries, earthing, control and instrumentation systems.

Areas of specialisation within the wider electrical engineering discipline, such as electronics and telecommunications are usually concerned with using electricity to transmit information rather than energy. For this reason, electronics and radiocommunications/telecommunications are captured under the field of Information engineering.

ENGINEERING ACADEMIC

The Academic practice field is defined for engineering academic staff members from tertiary education including engineering researchers.

In tertiary education, academic staff members may be involved in engineering activities in various roles, from building engineering prototypes, to contributing to knowledge in engineering. Engineering academic staff members may not be directly involved in the engineering design process but undertaking cutting edge engineering research to lead and enhance engineering activities. Examples of work samples of engineering academic staff members may be their authored quality assurance publications in engineering disciplines, and/or their authored quality assurance engineering reports at NZQA level 7, 8, 9 or 10 (graduate or postgraduate level). Academic staff members who are teaching an engineering programme without quality assurance publications in engineering disciplines or quality assurance engineering reports, may not qualify for academic practice field.

ENGINEERING MANAGEMENT

Engineering Management is a field of practice where engineers from any technical engineering background exercise engineering judgement in making decisions on the application and optimisation of physical, human and financial resources to achieve engineering outcomes in related processes or business activities. Engineering Managers may not be directly involved in the engineering design process.

General management – where engineering knowledge is of benefit or essential and covering many engineering disciplines.

- » Qualifies as Management practice field.
- » Example: Chief Executive or Director of an engineering or construction company.

Engineering management of a multi-disciplinary team where engineering knowledge is essential but specific discipline knowledge is not essential.

- » Qualifies as Management practice field.
- » Example: Engineering manager of a local authority or manufacturing company. A judgement may be necessary, but err towards including the management field – the candidate is appropriate for both management and discipline fields. (**Note:** an example grey area is the general manager of a lines company where electrical engineering knowledge may be essential for the role).

Management or leadership of a team, however large, where the candidate must have engineering knowledge to do the job competently. This management is part of the skills and knowledge of the discipline.

- » Would not normally qualify as Management practice field.
- » Example: Chief structural engineer of a large consultancy or compliance authority. A judgement may be necessary but err towards including the management field if management activities are beginning to dominate – the candidate may be appropriate for both management and discipline fields.

Part time management of a small practice or branch of a consulting practice managing budgets and staff and clients while carrying out frontline engineering or being the responsible person signing off compliance certificates.

- » Would not normally qualify for the Management practice field, as a certain amount of management is part of the engineering function, and is 'business as usual' for an engineer in this situation. (Note: Grey area accepted as to the boundary between 'business as usual' and the management becoming dominant. As an acid test, ask "could they give up their discipline practice field?". If not, then Management should not apply. If so, then in theory they need to go through a full review to justify the change in practice field/area description. A balanced decision may lead to having the two practice fields).

Full time engineering role where the applicant claims that they "do management", as well as advising clients, planning other workloads, training staff etc.

- » Would not qualify for the Management practice field, as management is part of their normal engineering activity. This includes project management, unless it is dominant, in which case the practice field is still their engineering knowledge (discipline), and project management is written into the practice area description (ie they use their discipline skills to do project management).

ENVIRONMENTAL ENGINEERING

Environmental engineering draws on the Civil and Chemical engineering disciplines to provide healthy water, air and land to enhance human habitation. Environmental engineers devise, implement and manage solutions to protect and restore the environment, within an overall framework of sustainable development. The role of the environmental engineer embraces all of the air, water and soil environments, and the interactions between them.

FIRE ENGINEERING

Fire engineering draws on knowledge from the range of engineering disciplines to minimise the risk from fire to health and safety and damage to property through careful design and construction. It requires an understanding of the behaviour of fires and smoke, the behaviour of people exposed to fires and the performance of burning materials and structures, as well as the impact of fire protection systems including detection, alarm and extinguishing systems.

GEOTECHNICAL ENGINEERING

Geotechnical engineering involves application of knowledge of earth materials in the design of structures, such as foundations, retaining walls, tunnels, dams and embankments. Geotechnical engineers assess the properties and performance of earth materials such as their stability and strength, and the impact of groundwater.

INDUSTRIAL ENGINEERING

Industrial engineering is the application of mechanical and electrical engineering principles to the design and operation of production equipment, production lines and production processes for the efficient production of industrial goods. Industrial engineers understand plant and procedural design, the management of materials and energy, and human factors associated with worker integration with systems. Industrial engineers increasingly draw on specialised knowledge of robotics, mechatronics, and artificial intelligence.

INFORMATION ENGINEERING

Information engineering is based on the Electrical engineering discipline but also draws heavily from Computer Science. Three areas of further specialisation can be identified:

1. Software engineering – the development and operation of software-intensive systems that capture, store and process data.
2. Telecommunications engineering – the development and operation of systems that encode, transmit and decode data via cable systems (including fibre optics) and wireless systems (radiocommunications).
3. Electronics engineering – the design, development and testing of electronic circuits and networks that use the electrical and electromagnetic properties of electronic components integrated circuits and microprocessors to sense, measure and control processes and systems.

MECHANICAL ENGINEERING

Mechanical engineering involves the design, manufacture and maintenance of mechanical systems. Mechanical engineers work across a range of industries and are involved with the design and manufacture of a range of machines or mechanical systems, typically applying principles of hydraulics (fluid control), pneumatics (air pressure control) or thermodynamics (heat energy transfer). Mechanical engineers may specialise in the Building Services or Industrial engineering field.

MECHATRONICS ENGINEERING

Integrates specialist knowledge in mechanics, electronics and computer systems to design and develop integrated automated systems, such as chassis-stabilising systems, anti-lock brakes, engine control units, disk drives, cameras, service and surgical robots and medical devices. Often these systems are largely mechanical in nature but could not function without their essential electronic and computer control system components.

MINING ENGINEERING

Mining engineering involves extracting and processing minerals from the earth. This may involve investigations, design, construction and operation of mining, extraction and processing facilities.

PETROLEUM ENGINEERING

Petroleum engineering is a field of engineering relating to oil and gas exploration and production. Petroleum engineers typically combine knowledge of geology and earth sciences with specialised Chemical engineering skills, but may also draw on Mechanical engineering expertise to design extraction and production methods and equipment. Petroleum engineering activities are divided into two broad categories:

1. Upstream – locating oil and gas beneath the earth's surface and then developing methods to bring them out of the ground.
2. Downstream – the design and development of plant and infrastructure for the refinement and distribution of the mixture of oil, gas and water components that are extracted.

SOFTWARE ENGINEERING

Software engineers apply the process of analysing user needs and designing, constructing, and testing end user applications that will satisfy these needs through the use of software programming languages. A fundamental aspect is the application of engineering principals to software development. In contrast to simple programming, software engineering is used for longer and more complex software systems, which are used as critical systems for business and organisations.

STRUCTURAL ENGINEERING

Structural engineering is a specialised field within the broader Civil engineering discipline that is concerned with the design and construction of structures. Structures might include buildings, bridges, in-ground structures, footings, frameworks and space frames, including those for motor vehicles, space vehicles, ships, aeroplanes and cranes, composed of any structural material including composites and novel materials.

TRANSPORTATION ENGINEERING

Transportation engineering is a specialised field of practice in the civil engineering discipline relating to the movement of goods and people by road, water, rail and air.

A transportation engineer might specialise in one or more of: pavement design, asset maintenance/management, construction/project management, traffic operations and control, transportation planning and systems analysis, freight transportation and logistics, road safety, railways or public transport systems.

WATER ENGINEERING

Water engineers specialise in water based projects; many will have a civil engineering or environmental background. Water engineers generally deal with the provision of clean water from sources or treatment plants, return of waste water and treated sewage to the environment and the handling of stormwater including the prevention of flood damage. Asset management may be a major part in a water engineer's job. This involves design, operation, maintenance and construction of infrastructure for water resources as well as planning for the maintenance and replacement of three waters assets to maintain performance and minimise whole of life costs. These can include but are not limited to pipes, treatment devices, pump stations and reservoirs.

Appendix 3: CV template

PLEASE NOTE: The purpose of the CV included with your submission is to provide the assessment panel with the information needed to confirm that your work examples are representative of the work being undertaken by you and align with the proposed practice field and practice area description. We do not require a marketing or job seeking CV however you can use an existing CV if it includes all of the information listed below. We recommend no more than 5 pages for your CV. A downloadable version of this template is available on [our website](#).



[FIRSTNAME LASTNAME]

[Location-City, Country]

[Current employer, role, and area of expertise]

Profile

Tell us a bit about yourself – your area of expertise and this should align with your practice area description (PAD) but this can be expanded. This should be around 50-100 words.

Qualifications

Include all degrees and diplomas and professional qualifications (eg CPEng or equivalent). Including overseas accreditations. **Do not** include short courses – these should be listed in your CPD (eg Site Safe Passport).

[Qualification, Tertiary institution,	Year]
[Qualification, Tertiary institution,	Year]
[Qualification, Tertiary institution,	Year]

Career summary

Preferably include all roles since graduation. Please explain any gaps within the period being assessed (eg sabbaticals, parental leave, long-term illness, etc). More experienced candidates can summarize early career experience.

Job title, company, location, dates (from – to) eg:
Senior Engineer, District Council, Jan 2018 – present
Engineer, Consulting firm, Nov 2012 – Jan 2018

Professional affiliations

- eg
- New Zealand Chartered Professional Engineer (CPEng)
 - Engineering New Zealand Chartered Member (CMEngNZ)
 - Transportation Group Member

Professional experience

1. List in descending date order (most recent first)
2. It is important to distinguish what you personally undertook or managed as opposed to work done by others in the department/team.
3. Where your experience comprises numerous small projects, list the projects that challenged you most within these groups and which are representative of the projects that you undertake within that group that you are typically undertook. You must highlight details demonstrating competence in your field and complexity.
4. We only require the last 6 years or the history in the period since last assessment.

- eg
- **[Project name, duration of involvement, job title]**
50–70 words describing the project, your involvement and what you brought to the table.



**REGISTRATION
AUTHORITY**
FOR CHARTERED PROFESSIONAL ENGINEERS



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new zealand**
te ao rangahau

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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).