

INSTRUCTIONS TO FILL IN CA03 – COMPETENCE SELF REVIEW FORM

The Competence Self Review form is the key document used by the Assessors as it gives the Assessors examples of evidence where you consider that will show the Assessors that you have met the various requirements of the relevant standard. The Standard used to benchmark you against is the Professional Engineer Standard.

Here you are assessing yourself against the twelve competence standards as outlined below. You are putting forward evidence to your engineering peers (Assessors) who will consider your evidence from the work samples you provided. You are actually telling the Assessors that you ARE Competent as a Professional Engineer and you are backing your claim with evidence.

What is a Professional Engineer capable of?

a) Carrying out Complex engineering activities

Complex engineering activities means engineering activities or projects that have some or all of the following characteristics:

- Involve the use of diverse resources (and, for this purpose, **resources** includes people, money, equipment, materials and technologies);
- Require resolution of critical problems arising from interactions between wide ranging technical, engineering and other issues;
- Have significant consequences in a range of contexts;
- Involve the use of new materials, techniques, or processes or the use of existing materials, techniques, or processes in innovative ways.

b) Be able to solve Complex engineering problems

Complex engineering problems have some or all of the following characteristics:

- Involve wide-ranging or conflicting technical, engineering, and other issues;
- Have no obvious solution and require originality in analysis;
- Involve infrequently encountered issues;
- Are outside problems encompassed by standards and codes of practice for professional engineering;
- Involve diverse groups of stakeholders with widely varying needs;
- Have significant consequences in a range of contexts;
- Cannot be resolved without in-depth engineering knowledge.

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IEPNG COMPETENCE STANDARD FOR PROFESSIONAL ENGINEERS

The competence standard sets the entry standard for engineers seeking formal peer recognition as a competent professional engineer by undertaking an PERB/IEPNG competence assessment. The competence standard sets the standard for the *registration as a Professional Engineer with the Professional Engineers Registration Board of PNG* and the standard for entry into the class of *Member or Fellow with the Institution of Engineers PNG Inc.*

PROFESSIONAL ENGINEER COMPETENCE STANDARD

To meet the minimum standard a person must demonstrate that he/she is able to practice competently in his/her practice area to the standard expected of a reasonable professional engineer. The extent to which the person is able to perform each of the following numbered elements in his/her practice area must be taken into account in assessing whether or not he/she meets the overall standard.

1	Comprehend, and apply knowledge of, accepted principles underpinning widely applied good practice for professional engineering Has a Washington Accord degree or recognised equivalent qualification or has demonstrated equivalent knowledge and is able to perform complex engineering work.
2	Comprehend, and apply knowledge of, accepted principles underpinning good practice for professional engineering that is specific to the jurisdiction of Papua New Guinea in which he/she practices
3	Define, investigate and analyse <i>complex engineering problems</i> in accordance with good practice for professional engineering
4	Design or develop solutions to <i>complex engineering problems</i> in accordance with good practice for professional engineering.
5	Be responsible for making decisions on part or all of one or more <i>complex engineering activities</i>
6	Manage part or all of one or more <i>complex engineering activities</i> in accordance with good engineering management practice
7	Identify, assess and manage engineering risk
8	Conduct engineering activities to an ethical standard at least equivalent to the relevant code of ethical conduct
9	Recognise the reasonably foreseeable social, cultural and environmental effects of professional engineering activities generally
10	Communicate clearly with other engineers and others that he or she is likely to deal with in the course of his or her professional engineering activities
11	Maintain the currency of his or her professional engineering knowledge and skills
12	Exercise sound professional engineering judgement

WHAT YOU NEED TO DO

The forms that are used together with this form (CA03) in your portfolio of evidence for registration assessment are:

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CA01 – Application for Registration and membership or

CA02 – Submission for continued registration assessment

CA04 – work history summary form - you can send in a _detailed CV'(i.e., a CV that you'd used for a job-search, so long as it contains the same type of information requested by the CA04 form).

CA05 – CPD summary form

CA06 – Referee Declaration and Evaluation form which your referees complete and submit directly to IEPNG. Access the form (or use the on-line referee request system) via the IEPNG website. Work samples – refer to paragraph 15 on page 15 for details.

Please use this application form (CA03) when you are applying for *Registration and Membership Assessment (AFA)* and also for Continued Registration Assessment (CRA) when required by the Assessors to become registered as a Professional Engineer with the Professional Engineers Registration Board of PNG (PERB) and also become a financial member of the Institution of Engineers PNG Inc under the category class of Member or Fellow.

**** It is a IEPNG/PERB Policy that for a person to be registered, the person must also be a member of IEPNG ******

PREPARING FOR COMPETENCE SELF REVIEW

We recommend the following steps:

- If your practice area has not changed materially since your last assessment, the standard for continued registration requires essentially two things –
 - i. that you have taken reasonable steps to maintain your competence and
 - ii. that you are still able to practice competently in your practice area.
- If your practice area has changed materially – in other words you have developed a new body of knowledge rather than extended your previous body of knowledge – then you need to prepare your portfolio of evidence as if you were undertaking an AFA in your current practice area. Examples of such a situation would be an electrical engineer who is now practicing in fire engineering. A change where an electrical engineer had been promoted to a position where he or she was responsible for fire engineers would not be regarded as a material change to his or her practice area.
- Update your Work History Summary (Form CA04) or your CV if it includes the same information.
- Update your Continuing Professional Development Activities Summary (Form CA05) to include CPD activities over the last 3 years. Take the time to reflect on the key learning that you gained and how it impacted on your practice and contributed to demonstrating your current competence.
- It is important that overseas candidates undertaking a CRA show they have maintained their competence in Papua New Guinea specific good practice through relevant CPD and work samples. The extent of CPD required will be dependent on the extent to which Papua New Guinea-specific practice in their practice area has changed. In areas of

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engineering which experience significant changes (due to changes in the regulatory environment, good practice' or technology), candidates will be expected to demonstrate a higher level of Papua New Guinea-specific CPD. Overseas candidates should consider ways in which they may be able to demonstrate this – see paragraph 5.7 on page 6 for further information.

COMPLETING CA03 COMPETENCE SELF REVIEW FORM

You are required to present work samples as evidence that you are '**still able to practice competently**' as a professional engineer. In the work samples you must demonstrate that you have as a person been able to :

1. **Use ENGINEERING KNOWLEDGE** on the project – give evidence of what was used
2. Applied **LOCAL KNOWLEDGE** –about Papua New Guinea in areas such as PNG Laws, standards, Codes, geography, cultures, languages etc?
3. **ANALYSE PROBLEMS** – Show what you did to define, investigate and analyse complex engineering problems that related to the project
4. **DESIGN OR DEVELOP SOLUTIONS** – Show what you did to design and develop solutions to complex engineering problems for the project
5. **MAKE DECISIONS** - What decisions you made relating to complex engineering activities for the project
6. Provide **MANAGEMENT** – Show areas where you were able to manage and provide leadership in managing complex engineering activities for the project
7. **Manage RISK** – Show areas where you were able to identify, assess and manage risks when involved in complex engineering activities on the project
8. **ETHICAL CONDUCT** – Show how you applied engineering ethics when conducting complex engineering activities according to the IEPNG/PERB Code of Conduct
9. **RECOGNISE FORESEEABLE EFFECTS** – Show that you were able to recognise the reasonably foreseeable social, cultural and environmental effects of **professional engineering activities** generally on the project
10. **COMMUNICATION** – Show that you were able to communicate clearly with other engineers and other people that you were working with on the project.
11. **MAINTAIN CURRENCY** – Show what activities/courses/conferences that you undertook in order to keep up to date with the changes in how engineering practice is evolving
12. **JUDGEMENT** – Show that you were able to exercise sound **professional** engineering judgement when involved in complex engineering activities on the project

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	What you are being measured against	What Assessors will be looking for?
1	ENGINEERING KNOWLEDGE	Have you got a Washington Accord degree or recognised equivalent qualification or has demonstrated equivalent knowledge and is able to: • Identify, comprehend and apply appropriate engineering knowledge • Work from first principles to make reliable predictions of outcomes • Seek advice, where necessary, to supplement own knowledge and experience • Read literature, comprehend, evaluate and apply new knowledge
2	LOCAL KNOWLEDGE	Are you as an Engineer able to: • Demonstrates an awareness of legal requirements and regulatory issues within the jurisdictions in PNG in which you practice • Demonstrates an awareness of and applies appropriately the special engineering requirements operating within the jurisdictions in PNG in which you practices.
3	ANALYSE PROBLEMS	Are you as an Engineer able to: • Identify and define the scope of the problem • Investigate and analyse relevant information using quantitative and qualitative techniques • Tests analysis for correctness of results • Conducts any necessary research and reaches substantiated conclusions
4	DESIGN OR DEVELOP SOLUTIONS	Are you as an Engineer able to: • Identify needs, requirements, constraints and performance criteria • Develop concepts and recommendations that were tested against engineering principles • Consults with stakeholders • Evaluate options and selects solution that best matched needs, requirements and criteria • Plans and implements effective, efficient and practical systems or solutions • Evaluates outcomes
5	DECISION MAKING	Are you as an Engineer able to : • Take accountability for your outputs and for those for whom you are responsible for • Accepts responsibility for your engineering activities
6	MANAGEMENT	Are you as an Engineer able to : • Plan, schedule and organises projects to deliver specified outcomes • Apply appropriate quality assurance techniques • Manage resources, including personnel, finance and physical resources • Manage conflicting demands and expectations
7	RISK MANAGEMEN	Are you as an Engineer able to : • Identify risks • Develop risk management policies, procedures and protocols to manage safety and hazards • Manage risks through 'elimination, minimisation and avoidance techniques'
8	ETHICAL CONDUCT	Are you as an Engineer able to : • Demonstrates understanding of IEPNG and/or PERB codes of ethics • Behaves in accordance with the relevant code of ethics even in difficult circumstances (includes demonstrating an awareness of limits of capability; acting with integrity and honesty and demonstrating self management)

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9	RECOGNISE FORESEEABLE EFFECTS	Are you as an Engineer able to : - Consider and, where needed, takes into account health and safety compliance issues and impact(s) on those affected by engineering activities - Consider and take into account possible social, cultural and environmental impacts and consults where appropriate - Recognise impact and long-term effects of engineering activities on the environment - Recognise foreseeable effects and where practicable seeks to reduce adverse effects
10	COMMUNICATION	Are you as an Engineer able to : - Use oral and written communication to meet the needs and expectations of your audience - Communicate using a range of media suitable to the audience and context - Treat people with respect - Develop empathy and uses active listening skills when communicating with others - Operate effectively as a team member
11	MAINTAIN CURRENCY	Are you as an Engineer able to : - Demonstrate a commitment to extending and developing knowledge and skills - Participate in education, training, mentoring or other programmes contributing to his/her professional development - Adapt and updates knowledge base in the course of professional practice - Demonstrate collaborative involvement with professional engineers
12	JUDGEMENT	Are you as an Engineer able to : - Demonstrate the ability to identify alternative options - Demonstrate the ability to choose between options and justify decisions - Demonstrate that Peers recognise your ability to exercise sound professional engineering judgement

You are requested to follow the following steps to prepare and submit work samples or evidence to assessors:

Select two (2) work samples (projects/tasks) that you have worked on in your Practice field where you can demonstrate that you have been able to put into use the twelve (12) competency standards.

Structure your write-up in a logical sequence by firstly giving a overview of the project then for each of the twelve (12) standards, write a paragraph stating how you were involved and what you did. Use words such as ' I designed this' or 'I made the decision to 'etc.

When applying for Assessment for Admission (AFA), you are strongly encouraged to submit evidence in the form of work samples – especially the examples cited in your Competence Self Review form. For example you might use one sample to show your risk identification and management skills, while another could demonstrate your engineering analysis and problem solving skills.

You should clearly identify those parts of projects/activities you were personally responsible for to indicate your personal contribution. You are also encouraged to cross reference work samples in your other documents (especially your competence self-review form) to assist assessors in finding the critical evidence of your competence.

The work samples should make it easy for the assessment panel to verify competence.

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Choose your examples carefully. The choice of samples is also important as it can help demonstrate that your decision making demonstrates sound engineering judgment. You should outline at the start of each sample exactly how and why you have chosen each sample.

EXAMPLES OF TYPES OF WORK SAMPLES

Work samples could relate to an engineering problem requiring a physical solution – for instance your work may have involved the investigation and/or design and implementation of a structure, a product, a transmission system or other physical subject;

- an engineering problem requiring an abstract solution, such as software engineering, information technology, chemical or some other type of process;
- an engineering research project, provided that the work has taken you from investigation and design through to implementation;
- development of standards or policies which rely heavily on engineering inputs and judgments.

HOW TO FILL IN THE CA03 FORM

1. Ensure to type your Full Name
2. Your Membership Number if you are renewing and if you are a New applicant, please leave the space blank
3. For work samples, write your story with 'first person' in chronological order the Continued Professional Development activities you have undertaken in the last **THREE** years (or since your last assessment if undertaking a continued registration assessment) to enhance or maintain your current knowledge or skills. State the date, actual hours taken, form of activity, title of CPD activity, what you have learnt & the benefits to your practice then tick the relevant CBA elements you have learnt and
4. Attach your CPD Certificates as evidence for formal CPD Activities taken.