

THE INSTITUTION OF ENGINEERS (INDIA)
Professional Engineer (P Eng)

Guidelines for Applicants

1. Introduction

A professional engineer (P Eng) by definition is one whose academic qualification & experience will be in conformity with the internationally mutually acceptable standards.

After evaluation of competence by the National Committee of the relevant engineering discipline, the applicant engineer is certified as a “Professional Engineer” by a Board for Certification of Professional Engineers (BFC).

2. Grouping of Engineering Disciplines

Engineering disciplines include in which bachelors degree or equivalent is awarded. The engineering disciplines in which Certificate of Professional Engineer are issued are given below:

- Civil Engineering
- Electrical Engineering
- Electronics & Telecommunications Engineering
- Computer Engineering/Information Technology
- Chemical Engineering
- Metallurgy & Material Sciences
- Mining Engineering
- Aerospace /Aeronautical Engineering
- Marine Engineering
- Textile Engineering
- Agricultural Engineering
- Production Engineering
- Environmental Engineering
- Mechanical Engineering
- Bio-Engineering

- Architectural Engineering
- Industrial Engineering
- Petroleum Engineering/Technology

3. Qualification for Certification as Professional Engineer

3.1 Basic Requirements for certification as Professional Engineer

- i) Bachelor's Degree in Engineering or equivalent recognised by Statutory Authority or Government of India ;
- ii) Experience of 7 years in engineering practice;
- iii) Professional experience of 2 years in a responsible position of significant engineering activity;
- iv) Persons of good character;
- v) Membership of recognised professional engineering institution/ association ;
- vi) Passed the Assessment Examination as prescribed;
- vii) Maintained continued professional development since graduation at a satisfactory level;
- viii) Undertakes to adhere to the Code of Ethics;
- ix) Makes a formal application with prescribed fee.

3.2 Exemptions for Experience for Professional Engineer

- i) Credit up to 12 months of experience may be given if he/she has a recognised Post Graduate Engineering Degree or equivalent;
- ii) Credit up to 24 months of experience may be given if he/she has obtained a recognised PhD Degree ;
- iii) Maximum exemption for higher education shall not exceed 24 months;

3.3 Requirements of Competency for Professional Engineers

- i) Application of engineering theory, standards and practices;
- ii) Management of engineering works including personnel & financial aspects;
- iii) Communication skills;
- iv) Understanding of broader social and legal implications of engineering profession;

- v) Continuous development in engineering profession;
- vi) Demonstration of concern for sustainability, occupational health, safety and welfare.

4. Carrier Progression

4.1 The career progression details, which must be recorded in the Application Form is the applicant's opportunity to demonstrate he has the required engineering experience. He/she should give dates and positions held and should describe the level and limits of responsibility held in each position.

For the purpose of certification, "responsible capacity" is defined as having responsibility for the financial and technical outcome of work of an engineering nature. It is acknowledged that engineering works vary greatly in size and complexity and the Board will not demand complete responsibility for excessively large or complex works. The applicant should have held responsibility for a part of a large work or all of a small works, part of a complex work or all of a straightforward works. The assessors will apply a certain amount of judgment in their decisions.

4.2 The Professional Engineer applicant is expected to possess the following qualities. The applicant is required to submit a self-appraisal report to demonstrate these qualities in the execution of his/her work during his/her service in the different positions in his/her career progression:

- A sound understanding of engineering principles;
- The ability to use relevant existing technology coupled with the ability to locate and use new technologies to benefit his/her work and engineering generally;
- The ability to identify and apply appropriate scientific methods to produce alternative solutions to complex engineering problems;
- Independent judgment in the application of engineering science and knowledge, particularly in his/her chosen field;

- The leadership skills to plan, manage and direct the human, material and financial resources required to solve complex problems, often in multi-disciplinary teams;
- A high level of understanding and application of engineering economics;
- Commitment to the public interest in all aspects of work, including health, safety, risk, financial, commercial, legal, environmental, social, energy conservation and sustainability;

The report is the main opportunity for the applicant to convince the assessors that he/she possesses and has been consistently demonstrating in his/her work performance, the required competence. It should therefore, not simply be a narrative of activities carried out by the applicant but must describe the “why and how” of the work activities. It should also indicate the applicant’s involvement and the role he/she played in the process. The report will be expected to demonstrate that the applicant understands the underlying engineering, economic and management principles behind the work activities. Ideally the Self Appraisal would include and center on significant engineering work undertaken by the applicant demonstrating his own contribution in meeting the required qualities. The self-appraisal report should be comprehensive and concise. For new applicants, the report is expected to be around 1000 words.

For renewal applications, the applicant should give details of his/her professional activities during 60 month period of the last certification (see item 6.5(a)). This is in the form of a self-appraisal report and should be written in the same spirit as mentioned above. The self-appraisal report for renewal applications is expected to be around 300 words.

5. Sponsors

Any application for PE must be supported by at least three sponsors, who are either Fellows of IEI / Fellows of any other recognized professional engineering institution or have been Professional Engineers of IEI for at least 5 years. The sponsors are expected to assess the application as per the requirements of certification. The sponsors

must give an undertaking that they know the applicant personally and be convinced in every respect that he/she is a fit and proper person to be certificated as Professional Engineer.

The sponsors will be required to complete a separate confidential form giving their own impressions of the applicant and reasons why they consider him/her to be a fit person to be certified as Professional Engineer. This confidential document shall be submitted separately to the BFC.

Sponsors' separate confidential reports are not applicable for renewal of certification.

6. Assessment Procedure for Professional Engineer

6.1 Assessment shall be done as follows: -

- a. Assessment examination ;
- b. Evaluation of professional experience for at least 7 years after acquiring engineering degree ;
- c. Evaluation of 2 years professional experience in significant engineering work;
- d. Evaluation of CPD.

6.2 Assessment Examination: It measures the ability of the potential professional engineer to practice in prevailing environment. It may cover areas such as health, safety, quality, environment, industrial and economic trends, social responsibility, ethics, legal and contracting practices, Codes/ Specifications of the respective engineering discipline and actual practicing professional knowledge;

6.3 Evaluation of Competence :

- The competence of a Professional Engineer defines his/her capability to perform a given function using a combination of general and engineering knowledge and skills to optimize the application of existing and emerging technology;

- A competent professional engineer's expected level of performance will depend upon his/her field of specialisation. Specifically, it may include the following :
 - Know the systems techniques, practices and procedures followed in management of engineering activities and project ;
 - Provide technical and commercial leadership in solving and managing engineering problems relating to the field of specialisation;
 - Have proper understanding of management of resources, legal and contractual issues, cost-cutting and efficiency improvement measures, safety, health and environment safeguards, development of human resources and service to the society;
 - Use effective communication and inter-personnel skills to deal with human matters and business issue;
 - Commit to abide by the established professional Code of Ethics.

The major emphasis shall be on evaluating the relevance of learning to the profession rather than mere knowledge accumulation. The National Committee concerned may also require the candidate for Professional Engineer to appear for interview.

6.4 Evaluation of Continuous Professional Development

The Continuing Professional Development programmes include 'Technical Educational Knowledge Update' through added qualifications; and 'Professional Expertise and Management Skills Upgrade' through additional training and experience. Each of these categories can be further broken down into significant parts and each part can then be assigned weightage and achievement value. The quality and quantity of IE (India) continuing development programme shall be assured by the development assessment method indicated below. It is the aggregate of credit hours earned in 5-years that will determine as to whether a

P Eng has secured at least 125 credit hours within his/her five years certification validity period for renewal.

The hours of an applicable CPD are counted by multiplying the actual hours of CPD by the Weight Factor, which indicates the extent of effect of each CPD activity. The following table shows the details:

Classification	Type	Applicable CPD Program	CPD Weight Factor (Multiplier)	Applicable Hours	Remarks
Formal Education Upgrade In Engineering/ Management duly recognized by BFC (Upper limit)	(1)	Award of Doctorate	2	30	All achievement shall be supported with records and certificates. Limit for total of all = 60 hrs for 5 years
		Award of Post Graduate Degree	2	25	
		Award of Post Graduate Diploma	2	20	
Formal Education Upgrade in Engineering/ Management duly recognized by BFC (Upper limit)	(2)	Post Graduate Correspondence/ online course (including those gained through the internet)	1	20	All achievements shall be supported with records and certificates. Limit for total of all = 60 hrs for 5 years
		Authoring books in field of specialization, published by reputed publisher(s)	2	20	
Formal Education and Training Activities (No limit)	(3)	Participation in training & development programmes	1	Actual hours of attendance	

	(4)	Participation in CPD related lectures, symposium, in-house training, studying tour, National and International conferences etc.	0.5	Actual hours of attendance	
Presentation Papers and other Activities (No limit)	(5)	Lecturer or Symposium Panelist	2	Actual lecture hours	Lectures exclude routine teaching at institutions and university
	(6)	Participation in an academic meeting	1	Hours spent at an academic meeting	
	(7)	Writing thesis, technical reports and others	1	Actual hours to write a report	Subject to limit of 20 hours per year
Presentation Papers and other Activities (No limit)	(8)	Attending a committee etc.	1	Hours of attendance	This is applied only when an applicant participates in active discussions (such as at round-table)
	(9)	Part of professional contribution in activities such as emergency risk judgment work.	1	Hours spent on professional contribution	Only those with urgency and in the public interest such as emergency building risk judgment work after earthquake etc.

Notes. 1. The number of credit hours will be calculated by multiplying the number of hours actually spent for the CPD activities by a pre-determined weighted factor.

The above assessment methodology including the weightage factors is indicative. IE (India) can re-design these, as required and directed by BFC.

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6.5 Renewal of PE Certification –

Renewal of certification for further period of 60 months may be effected 6 months prior to & not later than 6 months after the date of expiry of the previous certification.

Assessment examination is not applicable to the applicants seeking renewal of PE certification. Such applicants shall be assessed for:

- (a) Self-Appraisal giving details of professional activities during the 60 months period of the last certification in around 300 words (see also item 4.2 above).
- (b) Time spent in activities related to Continuing Professional Development (CPD). The criteria & methodology for assessment of CPD are covered under paragraph 6.4

The applicants shall be assessed including interview by the concerned National Committee on the basis of the criteria at the time of renewal of certification. This assessment shall be communicated to BFC and the candidate shall be issued fresh Certificate of PEng on approval.

7. Criteria for Recognition of Incoming Engineers from Overseas

IE (India) shall certify the engineers working overseas as under:

- i) Engineers registered as Professional Engineer by the members of EMF shall automatically be certified in India, if they apply for certification as P Eng in the specified form, provide all required data, and pay the agreed fee. They will be exempted from examinations and other requirement as they will have been examined under an equivalent system and will have Bachelor's Degree or equivalent in engineering from an accredited institution and at least seven years experience.
- ii) Others with engineering degree from foreign universities will be required to go through all the procedures including examinations as for engineers with Indian degree.

8. Professional Engineer's Seal

A Professional Engineer shall have a seal of his own as per design approved by the BFC which shall have following information –

Name of the P Eng

P Eng No.

Issuing Authority

Discipline

Valid up to

This seal must be affixed on the drawing/design/report/ certification certified by him/her.

P Eng shall be responsible for civil/criminal liability for the losses /damages suffered by the user of his/her services if it is found that the losses/damages have arisen out of wrong certification.

9. FEE :	For initial certification	: Rs .4,000.00
		US \$ 400 for applicants other than India & Nepal
	Interview electronically, if applicable	: Rs.3,000.00
	For Renewal	: Rs. 3,000.00
		US \$ 300 for applicants other than India & Nepal
	Interview electronically, if applicable	: Rs.3,000.00

Application, complete in all respects, is to be sent to Secretariat, Board for Certification, The Institution of Engineers (India), 8 Gokhale Road, Kolkata-700 020 along with requisite fee in form of Demand Draft drawn on any scheduled bank in favour of "The Institution of Engineers (India)" payable at Kolkata.