

Professional Qualifications for Nepali Engineers

***Presentation for RAP3 Senior Technical
Management (STM) Course***

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What are they and why are they important?

PROFESSIONAL QUALIFICATIONS



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They are

- ❖ 'Badge' of credibility
 - gives confidence in what you do as an Engineer
- ❖ Professional Experience, not academic
- ❖ Formal recognition of professionalism
 - high ethical and technical standards
 - competence and leadership qualities
 - management of all aspects of engineering, it's effects on society and environment

Importance

- ❖ Rounded experience and professional development
- ❖ Recruitment
 - ❑ higher scores, more likely to win the job
 - ❑ more senior positions, higher pay
- ❖ ‘Practice Engineering’ in legal sense
 - ❑ Ability to sign off designs, works certificates, contract documents, etc.
 - ❑ Expert witness. Arbitration
- ❖ Mobility (between countries)

Perceptions

- ❖ **Clients:** demonstrates the credentials to earn their trust and respect
- ❖ **Employers:** signals ability to take on a higher level of responsibility
- ❖ **Peers:** it earns respect
- ❖ **Yourself:**
 - ❑ a symbol of pride in your skills and abilities
 - ❑ a measure of your own hard-won achievement

Nepal Engineering Council

NEPAL: PROFESSIONAL ENGINEER



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About the Title

- ❖ Criteria and process still being developed
- ❖ Awarded by the Nepal Engineering Council (NEC)
- ❖ Allows use of title: PEng (Nepal)
- ❖ Valid for 5 years (renewable)
- ❖ Can be withdrawn if break Code of Conduct
- ❖ Minimum Set of Criteria

Application Requirements

- ❖ General Member of NEC
- ❖ Master's Degree in Engineering
 - University recognised by NEC
- ❖ Minimum Criteria – route specific
- ❖ 2 PEng (Nepal) Supporters (route C only)
- ❖ Fees:
 - Application NRs1,500,
 - Registration NRs10,000

Application Routes

Route	Description	Explanation	Criteria	Review
A	Senior Experience Route	Temporary (1yr) route for transition / introduction of PEng	<ul style="list-style-type: none"> • 20+ yrs exp. • 2 yrs NEC General membership 	<ul style="list-style-type: none"> • CV • Reference Letter • Interview
B	Registered Applicant Route	For foreigners, Nepali's qualified internationally	<ul style="list-style-type: none"> • Holds Professional Title recognised by IPEA of IEA 	<ul style="list-style-type: none"> • CV • Professional Title Certificate
C	Standard Route	For everyone else	<ul style="list-style-type: none"> • 4+ yrs exp. • 4 yrs NEC General membership 	<ul style="list-style-type: none"> • CV • DO record • Project Report • CPD Record (60hrs per year) • Essay • Interview

IPEA – International Professional Engineers Agreement, IEA – International Engineering Alliance



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Development Objectives (DOs)

- ❖ Competencies, Skills, Attributes
- ❖ Engineers must acquire and develop experience on all DOs
- ❖ Grading:
 - ❑ A – Appreciation – appreciate why it is important and why it is done
 - ❑ K – Knowledge – basic understanding and knowledge of how it is achieved
 - ❑ E – Experience – done it, at least in part, working under supervision
 - ❑ B – Ability – done it several times in different situations, competent to work without supervision and assist others to do it
- ❖ ‘Ability’ on minimum 5 DOs

10 DOs

1. Identify engineering problems and define possible solutions
2. Manage contractual issues
3. Understand and apply relevant procurement act and regulations
4. Control budgets, tasks, people, resources
5. Bring about continuous improvement through quality management
6. Demonstrate personal and social skills and ability to communicate with others at all levels
7. Comply with relevant codes of conduct
8. Manage and apply safe system of work
9. Contribute to sustainable development through engineering activities
10. Demonstrate commitment to Continuing Professional Development

Project Report, Essay

❖ Project Report:

- ❑ 3000 words
- ❑ demonstrate achievement level of all DOs
- ❑ special attention to the 5 Ability Dos

❖ Essay:

- ❑ exam conditions
- ❑ new topics / questions each review session
- ❑ articulate professional opinion, argument, analysis, conclusions
- ❑ demonstrate communication skills

Benefits

- ❖ May become legal requirement for key engineering roles and responsibilities in Nepal
- ❖ Some employers may introduce it as criteria for senior engineering positions

Current Issues

- ❖ University degree is not recognised by NEC?
 - ❑ No 'Experience' Route. **Min. 4 years to get Title**
- ❖ Current minimum criteria
 - ❑ not in line with IPEA / IEA Requirements, no international recognition
 - ❑ still valid and useful for working in Nepal
 - ❑ may be accepted in some countries also not in line with IPEA / IEA
- ❖ Will take some years for international recognition (even if meet criteria)
- ❖ **Not Yet in Effect!**



UK Engineering Council, through Institution of Civil Engineers

UK: INCORPORATED OR CHARTERED ENGINEER



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Engineering Council

- ❖ Qualifying Body,
 - through Professional Engineering Institution licensed by E.C. (E.g. ICE)
- ❖ Professional Engineer Titles
 - Incorporated Engineer and Chartered Engineer
- ❖ Recognised globally
 - Washington, Sydney, Dublin Accords
 - International Professional Engineers Agreement
 - APEC Agreement
 - International Engineers Alliance

Incorporated Engineer

- ❖ Shows an employer that you:
 - ❑ Are committed to developing and enhancing your competence
 - ❑ Can work to Professional Standards
- ❖ Valued for ability to:
 - ❑ Maintain and manage applications of current and developing technology
 - ❑ Provide support to engineering design, development, operation.

Chartered Engineer

- ❖ Shows an employer that you:
 - ❑ Have engineering competence and Leadership Qualities
- ❖ Valued for ability to:
 - ❑ Solve engineering problems using new or existing technologies
 - ❑ Apply innovation and creativity
 - ❑ Manage change

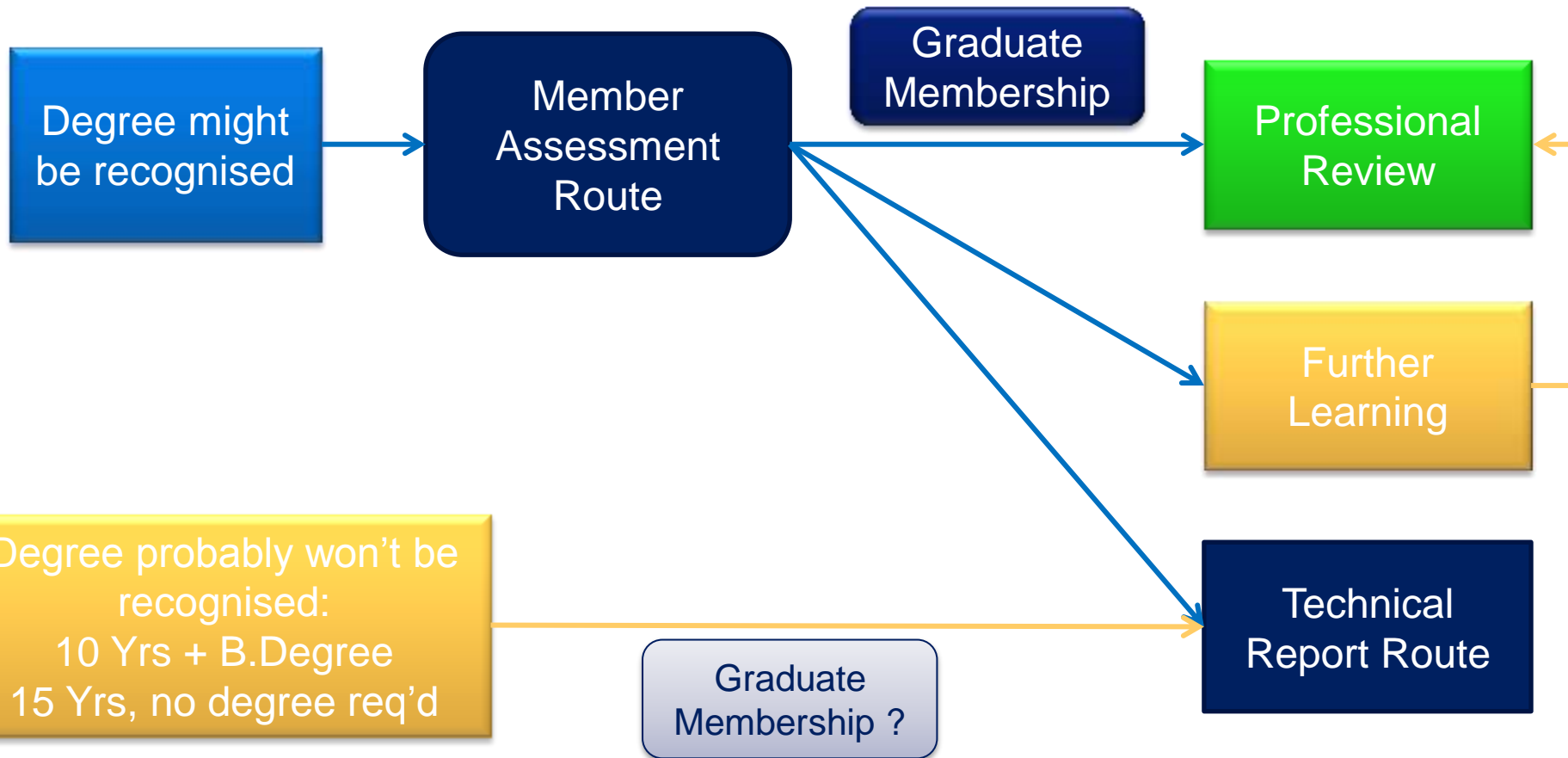
CEng - Need to demonstrate

- ❖ Theoretical knowledge to solve problems in **new** technologies **and develop new** analytical techniques
- ❖ Successful application of their knowledge to deliver **innovative products and services and / or take technical responsibility for complex engineering systems**
- ❖ **Accountability** for project, finance and **personnel** management **and managing trade-offs between technical and socio-economic factors**
- ❖ Effective interpersonal skills in communicating technical matters
- ❖ Commitment to professional engineering values.

Institution of Civil Engineers

- ❖ Route to Engineering Council Qualification for Civil Engineers
- ❖ International membership
- ❖ Local member groups
- ❖ Online support and materials

Experience Routes



Member Assessment Route

- ❖ Combined academic qualification and experience
 - ❑ Application form
 - ❑ Certified copies of degree and related docs
 - ❑ Extended CV
 - ❑ Attribute achievement form, appendices
 - ❑ CPD records
- ❖ Monthly assessments

Professional Review

Initial Assessment	Review Submission	Review
<ul style="list-style-type: none"> • Application Form • Sponsor Questionnaire • Evidence of qualifications • Evidence of IPD (Mentor supported training completion certificate) • 1 page Precis Professional Review Report 	<ul style="list-style-type: none"> • Cover Page / Contents • Professional Review Report <ul style="list-style-type: none"> • Max 5,000 words • All Attributes 1-9, responsibilities, decisions, problems, unusual experience, lessons • 1 or 2 projects, esp. where had leadership role • Show exercising of independent judgement • 2 page CV • Appendices – calculations, data, drawings ... • CPD Records 	<ul style="list-style-type: none"> • Presentation • Interview • Written Exercise <ul style="list-style-type: none"> • 2 questions • Your experience + industry related

Technical Report Route

❖ Based on knowledge and experience only

Initial Assessment	Stage 2 Application	Stage 2 Submission	Review
<ul style="list-style-type: none"> • Application Form • Mentor Support • Synopsis Technical Report • Short CV • Evidence of qualifications (if applicable) 	<ul style="list-style-type: none"> • Application Form • Sponsor's Questionnaire 	<ul style="list-style-type: none"> • Technical Report <ul style="list-style-type: none"> • Max 10,000 words • Attributes 1,2 (Science, Design, Practice) • Resolve technical problems • Knowledge meets academic competencies • Experience Report <ul style="list-style-type: none"> • Max 2,000 words • Attributes 3-9 (Management, Professionalism) • CPD Records 	<ul style="list-style-type: none"> • Academic Interview • Professional Interview

Attributes

1. Knowledge and Understanding of Engineering
2. Technical and Practical Application of Engineering
3. Management and Leadership
4. Independent Judgement and Responsibility
5. Commercial Ability
6. Health, Safety and Welfare
7. Sustainable Development
8. Interpersonal Skills and Communication
9. Professional Commitment

Costs

Route	Initial Assessment	Graduate Membership	MICE	CEng	Total (excl. Graduate membership)
			Stage 2 Application	Eng. Council Registration	
Member Assessment	£366.75 / £192.75	£142 per year (minus £63 covered in initial assessment)	£291.25 / £96.75 (Professional Review)	£47.80	£705.80 / £337.30
Technical Report Route	£186.25 / £ 62	£142 per year	£322 / £107	£47.80	£556.05 / £216.80

Annual membership MICE & CEng for non-UK resident. £215 / £62.50 + £36. 80

Normal / Reduced rate. Reduced application rate applies if annual income is £9,750 or less. Reduced membership rate applies if annual income is £13,900 or less



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Nepal Vs UK Comparison



RAP3 SUPPORT FOR ENGINEERS



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RAP3 Support

- ❖ Precise mechanism not yet confirmed
- ❖ Proposal: RAP3 66% / Individual 33%
- ❖ Sign ICE Support Agreement for 3 years
 - repay RAP3 contributions if pull out early.
- ❖ Forex.

Member Assessment webinar

15 September, 2015

<https://www.ice.org.uk/careers-and-professional-development/professional-qualification-elearning/member-assessment-webinar>



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