# Professional Registration Guidance Notes

**(CEng, IEng & EngTech)**

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## (CEng, IEng and EngTech)

## Contents

# Introduction

CIHT is licensed by the Engineering Council to assess candidates against the standards for **Engineering Technician** (EngTech), **Incorporated Engineer** (IEng) and **Chartered Engineer** (CEng).

The requirements for professional registration are set out in the UK Standard for Professional Engineering Competence (UK-SPEC) which can be viewed here.

# UK-SPEC Standards

The criteria against which candidates are assessed are set down by the Engineering Council in Competence and Commitment Statements.

| Competence | A | Knowledge and Understanding |
| | B | Application to Practice |
| | C | Technical and Commercial Leadership |
| | D | Interpersonal Skills |
| Commitment | E | Personal Commitment |

***Health and safety, risk assessment, and understanding of the environment and sustainability are important and are embedded within the competences.***

# CIHT Specialisms

To help highways and transportation professionals relate what they do at work to the generic standards in UK-SPEC, CIHT has identified eight relevant specialisms that relate to different occupational areas of the industry.

You will be asked to choose which of the eight specialisms you fall under when making your application (*you may choose more than one*). If you are applying for CEng or IEng, please refer to the CEng Gap Analysis Exercise or IEng Gap Analysis Exercise so that you can measure your engineering competence against the specialisms' criteria and see which one/s is/are relevant to your career. You should be able to cover all the areas listed for your chosen specialism as these will be the areas assessed at the Professional Review stage.

At least one of your reviewers will be an expert in your declared specialism/s so it is important that you choose carefully.

1) Transport planning
2) Materials and geotechnics
3) Traffic management, safety and systems engineering
4) Infrastructure planning, design, construction and/or maintenance
5) Transport related structural engineering
6) Academic research and teaching, or training more generally
7) Research and development in highways and transportation more generally
8) Intelligent transport systems

If you are applying for EngTech, you will not be required to declare a specialism but should refer to the EngTech Supplementary Guidance document to help you complete your Portfolio of Evidence.

# Continuous Professional Development (CPD)

All applications for **CEng/IEng** professional registration through CIHT require you to submit a CPD record that shows you have undertaken a minimum of 25 hours per year for each of the two years prior to your application.

**EngTech** candidates only need to demonstrate a minimum of 25 hours for the previous 12 months.

e.g. if you are applying for CEng/IEng in June 2020, you will need to provide a CPD record for June 2018 – June 2019 (at least 25 hours) and June 2019 – June 2020 (at least 25 hours).

CPD can take many different forms and may include activities such as:

- structured reading focusing on new techniques, procedures, processes or legislation.
- self-study to help you deal with a type of project you have never dealt with before, e.g. by learning new computer software.
- technical discussions with colleagues where you learn new approaches, or you pass on your knowledge to others.
- presentations which require you to research the topic area first.
- participation in meetings which you don't normally attend for example where you have to carry out additional background reading or research in order to add value to the meeting.

In general, any activity in which you have gained valuable knowledge in relation to your work can qualify as CPD.

Further information can be found here.

# Initial Assessment

An initial assessment is the first stage of the application process for all candidates wishing to apply for CEng, IEng or EngTech. It takes less than five minutes to complete and we will respond within approximately five working days to confirm the options open to you.

The initial assessment form is completed online where you will be asked to submit your:

- CV
- Details related to the qualifications you hold (level, subject, start and end dates)
- Copies of academic certificates

You do not need to be a CIHT member to complete an initial assessment and it is completely free of charge. However, should you wish to proceed in applying for professional registration, you will need to become a CIHT member at the required membership grade.

The initial assessment result will confirm whether you have the educational base to proceed through the standard route. If your qualifications do not allow you to proceed via that standard route, you have the option of either completing the appropriate educational base for the standard route through further formal study or completing the individual route.

- **Standard Route**

Your qualifications have met the academic benchmark set by the Engineering Council and you may proceed directly to Professional Review. This consists of the submission of a Portfolio of Evidence and attendance at a Professional Review interview.

- **Individual Route**

Your qualifications have not met the academic benchmark set by the Engineering Council. You will have the option of demonstrating that, through your experience to date, you have acquired the equivalent level of technical knowledge as an individual who holds an accredited qualification.

# EU Route to UK Professional Registration

If you are a citizen of the European Union (EU) or European Economic Area (EEA) who is qualified to practice as an Engineer in your home EU/EEA Member State, then you may apply for CEng, IEng or EngTech registration in the UK under the provisions of EU Directive 2005/36/EC, as amended by EU Directive 2013/55/EC.

Further information can be found here.

# The Standard Route

The academic benchmark which has been set by the Engineering Council for each qualification is listed below:

- **CEng**

An accredited four-year integrated MEng degree, or a Bachelor's degree which is accredited for CEng with further learning, plus an appropriate accredited Master's degree.

- **IEng**

A Bachelor's degree which is accredited for IEng.

- **EngTech**

You don't need any specific educational achievements but having a level 3 qualification (BTEC or NVQ) will be helpful at certain stages of the assessment. Individuals without formal qualifications may also apply for EngTech registration by demonstrating they have acquired the necessary competence through substantial working experience.

If your initial assessment outcome e-mail from CIHT confirms that you may proceed directly to Professional Review, you will be proceeding via the Standard Route. This consists of the following:

➢ The submission of a Portfolio of Evidence
➢ Attendance at a Professional Review interview

Your Portfolio of Evidence is assessed in conjunction with your interview performance to determine whether you meet the required level of competence for professional registration.

## Portfolio of Evidence (CEng/IEng)

- **CEng templates** can be downloaded here
- **IEng templates** can be downloaded here

A Portfolio of Evidence should consist of the following documentation.

- A contents page, with page numbers for each section, including appendices.
- An application form with a passport-sized photograph *(refer to templates)*
- Two sponsor authentication forms *(refer to templates)*
- An up-to-date CV and organisational chart for the organisation you work for showing your position in the organisation
- A copy of the initial assessment outcome e-mail from CIHT
- Copies of educational certificates endorsed and dated by one of your sponsors with 'I certify that this is a true copy of the original certificate.'
- UK-SPEC Evidence Forms; no more than 500 words for each section *(refer to templates)*

- Project synopsis; a 500-word outline of your presentation which you propose to give at the interview.
- CPD record demonstrating a minimum of 25 hours per year for <u>each</u> of the two previous years prior to the date of the Portfolio submission.
- Personal profile *(refer to templates)*
- Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis *(refer to templates)*
- Two-year personal progression plan e.g. '2021 – 2023' *(refer to templates)*
- Appendices – these should be clearly signposted in your UK-SPEC Evidence Forms so that your reviewers can find them with ease. Please only include essential appendices as submissions with an excessive bulk of appendices may not be considered. **As a general rule, appendices should not exceed 50 sides of A4.**

**<u>Supplementary Guidance for Academics</u>**

If your specialism is *'Academic research and teaching, or training more generally,'* please e-mail the CIHT Education Team at education@ciht.org.uk who will be able to send you tailored guidance to help you prepare for the Professional Review stage.

## Portfolio of Evidence (EngTech)

- **EngTech templates** can be downloaded here. Please also refer to the Guidance for EngTech Candidates document to assist you in demonstrating your engineering competence.

A Portfolio of Evidence should consist of the following documentation**:**

- A fully completed Application Form (Sections A and B) signed off by a sponsor.
- A passport-sized photograph.
- A detailed CV.
- Copies of relevant certificates.
- Your CPD record for the 12 months prior to application.

## Professional Review Interview

- Interviews for **CEng** and **IEng** last approximately 75 minutes and start with a 15-minute presentation by you on a project of your choice.

- Interviews for **EngTech** last approximately 45 minutes and start with a 5-10 minute presentation about your career to date.

Your interview will be conducted by two professionally qualified practitioners; one of whom will usually be an expert in the specialism(s) declared on your application form. Your reviewers will structure the interview discussion to establish whether you have met the four competence standards and one commitment standard set by the Engineering Council, for the level to which you aspire (*UK-SPEC).*

# The Individual Route

The Individual Route is a means by which you can demonstrate that your ***knowledge and understanding of engineering principles*** meets the educational base requirements set by the Engineering Council. This educational base requirement needs to be confirmed as having been satisfied before you are eligible to proceed to Professional Review.

The Individual Route may be completed by:

- The three-stage **Technical Report** process (see below)

- Any other options specifically offered to you by CIHT e.g. **Further Learning Report (FLR)**

## Further Learning Report (FLR)

The Further Learning Report option may be available to you if your academic qualification(s) is of the same level as required for your chosen registration; but the programme(s) you studied is not accredited by the Engineering Council. This route may be appropriate for overseas candidates who have obtained an equivalent qualification level in their home country.

As part of the report, you will need to complete the **FLR Table** (*template online*) which lists the relevant learning outcomes of an accredited course for the level being sought. Here, you will need to identify, with supporting evidence as an Appendix, how your learning meets each of the criteria.

A Further Learning Report submission should consist of:

- A completed FLR application form *(template online)*
- A copy of the initial assessment e-mail from CIHT stating that a FLR may be submitted
- A copy of your CV
- Authenticated copies of your qualifications (including translations if overseas)
- A completed FLR Table
- CPD record demonstrating a minimum of 25 hours per year for the two previous years prior to the date of the FLR submission.
- Appendix of supporting evidence

## Technical Report

The purpose of the Technical Report is to demonstrate that you have acquired the equivalent technical knowledge and understanding of scientific and engineering principles which underpin the A and B Competences of UK-SPEC, to the same level as those who meet the academic benchmark. These benchmarks are expressed in The Engineering Council's 'Accreditation of Higher Education Programmes' (AHEP) document and are based around the following six areas.

- Science and mathematics
- Engineering analysis
- Design
- Economic, legal, social, ethical and environmental context
- Engineering practice
- Additional general skills

By reading the UK-SPEC A and B Competences in conjunction with the AHEP document, you will be able to ensure that your Technical Report is focussed on appropriate topics of discussion. The full listing of the A and B competences and relevant sections of AHEP are given in the Appendix.

The Technical Report is part of the Individual Route and is a three-stage process.

## Stage 1 – Synopsis

The synopsis is an outline of what you propose to discuss in your Technical Report and may be submitted at any time during the year. You will need to demonstrate that your full Technical Report (Stage 2) will be able to demonstrate the knowledge and understanding of engineering principles which underpin the UK-SPEC A and B Competences, as further described in the AHEP document.

A Stage 1 submission consists of the following documentation:

- A completed Stage 1 Technical Report application form
- A copy of the initial assessment e-mail from CIHT
- A 500 - 1000-word synopsis of the Technical Report which you plan to submit
- A copy of your CV. This should cover your relevant academic qualifications as well as your work experience to date.
- CPD record (a minimum of 25 hours per year for **each** of the two years prior to the date of your application)

**Mentor**

You are encouraged to use a mentor to provide you with support and guidance in preparation for your Stage 1 submission.

**Sponsor**

Your Stage 1 submission will need to be signed off by a sponsor (*who may also be your mentor*) to verify that the content of your submission is, to the best of their knowledge, a true and accurate reflection of your professional experience. Your sponsor needs to be an active Engineering Council registrant at the level of registration being sought or above.

Your assessors may approve your synopsis (with or without feedback).  If they do not approve your synopsis, they will give you feedback which explains why you are unable to proceed to Stage 2. You will then have the option of re-submitting at any time.

## Stage 2 –Technical Report

If your synopsis is approved, you will then need to submit your Technical Report such that it is received in time for assessment within the next 12 months *(see website for dates).* Your report should not exceed 8,000 words and will be assessed against the UK-SPEC competences and the AHEP requirements.

A Stage 2 submission must consist of the following documentation:

- A completed Stage 2 application form *(refer to template)* signed off by a sponsor who is an Engineering Council registrant at the level being sought or above.
- Your 8,000-word Technical Report *(guidance below)*
- An updated CPD record, demonstrating a minimum of 25 hours per year for each of the previous two years.

When compiling your Technical Report, the following structure is advised:

- *Title page:* Including your name, membership number, report title, the purpose of the report e.g. 'application for CEng registration' and any other useful information.)

- *Summary:*  Summarise your achievements in relation to the engineering principles which underpin the UK-SPEC and AHEP.

- *Contents page*

- *Introduction:* A short overview of the content and structure of the rest of the report

- *Main body of the report:*

  - The report should be structured in a way which suits both your experience and the nature of the competences we are seeking to consider You will need to clearly demonstrate your knowledge of engineering principles as a result of your engineering experience.

  - The report should provide evidence such as reference to designs, drawings, calculations, and any other types of activity or analysis that you have undertaken.

- Some of this evidence might be contained in appendices and each appendix should be clearly referenced in text in the body of the report. Design data such as guidelines and standards as well as any other relevant documentation which is generally available should be cited and the full bibliography provided in a reference list at the end of the report.

- *Conclusion:* Provide considered opinion on your work, reflecting on any lessons learned and highlighting any aspects you would now approach differently.

- *Appendices*

You should avoid simply writing about a project that you have worked on. The formation of an engineer is usually through a whole variety of projects and experiences and the assessors will expect to see this variety reflected in your Technical Report.

The assessors will form a judgement about you against the UK-SPEC competences and the AHEP.

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# TIPS:

➢ You should make sure that your Technical Report remains focussed on your approved synopsis.

➢ You should aim to write in the first person e.g. 'I decided…' and emphasise your own technical knowledge and the basis on which you made design and other decisions. Phrases such as 'we decided…' should be avoided, but where a decision was group based, you should clearly identify your contributions to the group decision.

➢ Any illustrative diagrams, tables, drawings, calculations and statistics should be included in an Appendix to the main report to support the development of a point. You must be able to demonstrate your understanding and interpretation of them.

➢ All appendices should be referenced at the appropriate place in the text within the main report. The appendices should be ordered according to the order in which they are introduced in the text. Each appendix should be clearly and separately titled (e.g. "Appendix A – highway pavement calculations"). Appendices should only include essential additional documentation which provide evidence to support an assertion you are making in the report. Submissions with an excessive bulk of appendices should be avoided and it is recommended that they should ideally consist of no more than **50 sides of A4.**

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## Stage 3 – Technical Report Interview

If your assessors are satisfied with the content of your report, you will be invited to attend a Technical Report interview. If your report is considered to not yet meet the requirements to proceed to a Technical Report interview, you will be advised to re-submit this in accordance with the feedback given.

Two assessors will conduct the interview which normally lasts for around one hour. At the start of the interview, you will be invited to speak about your career to date for approximately 5 minutes, highlighting your significant **engineering** achievements. Your interview will be a structured discussion between you and your assessors, who will be looking for you to demonstrate your range and depth of knowledge and understanding of engineering principles, based on your Technical Report.

**Upon successful completion of Stage 3, you will be invited to Professional Review in the same format as a Standard Route candidate.**

# Application Process

- All submissions should be sent electronically in one single comprehensive PDF file to education@ciht.org.uk by the submission deadline. ***Please note that we only require an electronic copy of your submission by the deadline date.***
- The Education Team will conduct an administrative check to ensure that all your documentation is present and will inform you if any additional information is required.
- Once the administrative check has been completed, you will be provided with information on the next steps e.g. posting your **hard copies and payment** of the assessment fee (if applicable).

# Submission Deadline and Interview Dates

Submission deadlines can be found on the CIHT website. There are two interview periods each year for standard and individual route candidates. Interviews are normally held in London, Birmingham and Edinburgh. We also hold Professional Review interviews overseas for Hong Kong candidates. You will be asked to indicate your preferred interview location when applying and we will seek to accommodate this, depending on reviewer availability.

**Professional Review Interviews**
June and October *(Please refer to the CIHT website for specific interview dates).*

**Technical Report Interviews**
May and November *(Please refer to the CIHT website for specific interview dates).*

# Assessment Fees

Please refer to the CIHT website for further information regarding fees. All fees can be paid online via your MyCIHT account or by telephone.

# Results

Results are issued by e-mail approximately five weeks after the submission deadline and/or the interview and are sent to the e-mail address provided in your application form. An official letter confirming your result will follow shortly after the email confirmation and will be sent to the address provided in your application form. Please contact the Education Team at education@ciht.org.uk should you need to update your contact details.

If unsuccessful in your Professional Review/Technical Report interview, you will be required to re-submit the relevant documentation and follow the standard application process, including the assessment fee.

# Appeals

Candidates have the right to appeal their result if they feel there was an error in the administration process or in case of unforeseen events. Appeals must be received in writing within six weeks of receiving the result and should be sent via e-mail to education@ciht.org.uk or addressed to

*CIHT*
*C/o Director of Education and Membership*
*119 Britannia Walk*
*London, N1 7JE*

# Glossary

- **CIHT** – The Chartered Institution of Highways and Transportation, an Awarding Organisation licensed by the Engineering Council to assess candidates against the standards for EngTech, IEng and CEng

- **Continuous Professional Development (CPD)** – The learning activities that are undertaken separate from your work, but in support of your work. A CPD record is the accurate recording of your learning activity

- **Engineering Council** - the Awarding Body which sets the standards and academic benchmarks for Professional registration.

- **Further Learning Report –** A report which demonstrates how any further learning a candidate may have meets the Engineering Council's accreditation criteria.

- **Individual Route** – A route which may be followed for a candidate who does not have the full required educational base for becoming registered and which is undertaken before proceeding to Professional Review

- **Initial Assessment** – The process which determines whether an applicant has the required educational base and, if not, outlines options for the applicant.

- **Interview** – An opportunity to demonstrate how you have met the required level of competence.

- **Mentor** – An individual who can provide guidance on the application process

- **Portfolio of Evidence** – A compilation of required documents submitted at the Professional Review stage.

- **Professional Registration –** The recording by the Chartered Institution of Highways and Transportation on behalf of the Engineering Council that a person has reached a certain professional status

- **Routes to professional Registration** – different pathways that, depending on an applicant's eligibility, are available to achieve Professional registration

- **Specialisms –** Specific areas related to highways and transportation

- **Sponsor** - Engineering Council Registrant who is familiar with the requirements of professional registration

- **Standard Route -** Direct progression to Professional Review for a candidate with the required educational base

- **Synopsis** – A brief outline of what is to be covered in the Technical Report

- **Technical Report** – A report demonstrating your technical knowledge to the appropriate level.

- **UK – SPEC** – Engineering Council document that sets out the competence and commitment required for professional registration.

# Appendix – Engineering Council UK-SPEC A and B Competences

As part of the Individual Route, you need to demonstrate knowledge and understanding of the scientific and engineering principles that underpin the UK- SPEC competences (3rd Edition, May 2014)

The following summarise the requirements. The original document provides further illumination by giving examples of what might demonstrate these competences:

## CEng underpinnings (p24 et seq. of UK-SPEC for fuller description)

A   Use a combination of **general** and **specialist engineering** knowledge and understanding to **optimise** the application of **existing** and **emerging technology**

    A1   Maintain and extend a **sound theoretical approach** in enabling the introduction and **exploitation** of new and **advancing technology**.

    A2   Engage in the **creative** and **innovative development** of engineering technology and **continuous improvement** systems

B   Apply appropriate **theoretical** and **practical methods** to the **analysis** and **solution** of engineering **problems**

    B1   **Identify** potential projects and **opportunities**

    B2   **Conduct** appropriate **research**, and undertake **design** and **development** of engineering **solutions**

    B3   **Manage** implementation of **design solutions**, and **evaluate** their effectiveness

**The relevant sections of AHEP for CEng candidates can be found here on pages 18-21.**

## IEng underpinnings (p16 et seq. of UK-SPEC for fuller description)

A Use a combination of **general** and **specialist engineering** knowledge and understanding to **apply existing** and **emerging technology**.

    A1 Maintain and extend a **sound theoretical approach** to the **application** of **technology** in **engineering practice**.

    A2 Use a **sound evidence-based** approach to **problem-solving** and contribute to **continuous improvement**.

B Apply appropriate **theoretical** and **practical methods** to **design, develop, manufacture, construct, commission, operate, maintain, decommission and re-cycle engineering processes, systems, services and products**.

    B1 **Identify, review and select techniques, procedures** and methods to undertake engineering tasks.

    B2 **Contribute** to the **design and development of engineering solutions**.

    B3 **Implement** design solutions and **contribute to their evaluation**.

**The relevant sections of AHEP for IEng candidates can be found here on pages 12-14.**