

CIBSE Membership Fact Sheet

Technical Report Route (TRR) to IEng Registration – A23

Once you have been accepted as ACIBSE, you may decide to seek Incorporated Engineer (IEng) registration with the Engineering Council (UK). If you **do not have the exemplifying qualifications***, you may be offered the option to do a Technical Report.

The Technical Report is separate from, and in addition to, the Engineering Practice Report you are required to submit for CIBSE membership. It is to be submitted **after** your application for ACIBSE has been processed and approved.

Purpose of the Technical Report

The purpose of the Technical Report is to show that you have gained the same level of engineering knowledge and understanding of engineering fundamentals as someone who has the exemplifying qualifications.

For Registration at IEng level you are required to demonstrate that you have reached a level of knowledge and understanding equivalent to a BEng(Hons) – Bachelor of Engineering.

Your Technical Report should be a critical exposition of some aspect of building services engineering. You must define the technical problems involved and show how these have been solved through **the application of engineering principles and knowledge of building services engineering fundamentals.**

Normally, your report will be based on

- describing a project you have been involved with, **or**
- an investigation or research project on some aspect of building services engineering you have undertaken.

Remember that **the purpose of the report is to show that your acquired knowledge fully compensates for any lack of formal academic qualifications.** In the Technical Report you are **not** asked to demonstrate your professional competence, for example your management skills and experience. These will have been covered in your Engineering Practice Report (*see fact sheets A20 and A21*).

**The exemplifying qualification for registration as IEng is an accredited Bachelors degree or a BTEC HNC/D or equivalent with appropriate further learning to degree level.*

The Application

When you apply for Registration via the Technical Report route you will be asked to include contact details of your Mentor and to enclose a Synopsis of what you propose to write. You will also be asked to enclose the administration fee (see below).

Mentor Support

In planning and preparing your Synopsis and Technical Report, CIBSE strongly recommends that you work with a Mentor. Your mentor should hold either IEng or CEng registration with the ECUK, and they could be a colleague at work, a teacher or trainer who is a knowledgeable and experienced building services engineer. Most importantly, it should be someone whom you know well and trust, and who is prepared to spend some time with you to

- learn about the requirements for ECUK Registration
- advise you on how to approach your Technical Report
- support you as you work on it
- read and comment on your work
- endorse your synopsis and your Report

Synopsis

Before submitting the full report, you are required to submit a **synopsis** to CIBSE for approval. In it you must set out clearly how you intend to demonstrate your technical knowledge and understanding. You must identify the engineering principles involved rather than, for example, just describing a project on which you have been working.

The synopsis should be approximately 750 words and should indicate the planned structure and content of your Technical Report.

CIBSE will respond within 8 – 10 weeks advising you

- to proceed on the basis of this outline, OR
- to amend and resubmit it

Please submit 3 copies in total of the application form and all supporting documentation.

The Technical Report

Content

The completed report will usually include a **written explanation, diagrams and calculations** which together show your understanding of fundamental engineering principles. Some or all of the following are likely to feature in it:

- **mathematical** aspects and calculations
- use of appropriate **software** to solve problems and reach engineering solutions
- application of **new and innovative technologies** relevant to the subjects of the project
- application of **analysis and modelling**
- evaluation and exploitation of **sustainable technologies** in providing building services
- establish **fitness for purpose** using reliable quantitative methods
- solution of **practical problems**
- **scientific knowledge** of properties of materials and components, and of physical processes
- selection and use of relevant **materials, equipment, tools processes or products**
- use and **apply information from technical knowledge resources**
- **application of engineering practices** and processes e.g. commissioning, design, maintenance, repair, refurbishment, adaptation
- analysis of the **economic, social and environmental contexts** of the work being described

The Technical Report must be the result of **your own original thoughts and work**. If you are including background materials such as printouts from using calculations software, or the products of others' work, these must be attributed and included as appendices and not in the main body of the Report.

Structure

The Report should be in English, framed with an **introduction, aim, discussion** and **evaluation**

It should be self contained, and not rely on other papers unless they are provided in appendices. It must have a logical structure.

The Report might be organised as follows:

TITLE

INTRODUCTION – what the Report is about

AIM – what is the aim of the project or investigation?

BACKGROUND - setting the scene. Where does the project lie in relation to the total picture?

TECHNICAL CONTENT AND DESCRIPTION – to draw out the fundamentals underlying the subject(s) you are writing about. Your Report must not simply show that you applied the relevant codes and standards, but must illustrate your understanding and application of fundamental engineering principles. Include mathematical analysis where it is appropriate.

CONCLUSIONS – in relation to the application of engineering principles, what were the successes and failures of the project or investigation?

EVALUATION AND REFLECTION – what lessons have been learned? What evaluation criteria have you used to assess the success or failure of the project/subject being investigated? Include your own critical comments, again linking them to fundamental engineering principles. What commercial and other risks were inherent in the project, and how were they tackled?

Supporting documents may include:

APPENDICES – information to support and provide background for the main report. Explain where they have come from and how they are relevant.

DIAGRAMS AND DRAWINGS – preferably these should be positioned close to the text they refer to.

REFERENCE SOURCES – a clear listing of the information sources you have used such as books, journals, Guides, websites etc in preparing the Report

NB: Where you use software, modelling techniques, standards, codes of practice or other predetermined methods of solution you must demonstrate your understanding of the basis for such methodology e.g. provide a first principles calculation, or reasoning, for that part of the work being completed.

Length

The Technical Report may be up to 6,000 words in length, and should be suitably illustrated. It must be based on your experience and demonstrate a **knowledge and understanding of fundamental engineering principles**.

The expected length of the Technical Report will vary with the level of the highest qualification you hold. The following guidelines indicate the expected size of the Report, excluding appendices. However, they are approximations only.

If you already hold:	Approximate word count
HND/HNC or equivalent	3000-4000
ND/NC	4000-5000
No appropriate qualifications	5000-6000

Judging Criteria

CIBSE will assess your Technical Report against the following criteria:

1. Underpinning science and mathematics and associated building services engineering disciplines, will normally include
a. knowledge and understanding of the scientific principles underpinning relevant current technologies, and their evolution
b. knowledge and understanding of mathematics necessary to support application of key engineering principles

2. Engineering analysis, will normally include
a. ability to monitor, interpret and apply the results of analysis and modelling in order to bring about continuous improvement
b. ability to apply quantitative methods and computer software relevant to building services engineering, frequently within a multidisciplinary context
c. ability to use the results of analysis to solve engineering problems, apply technology and implement engineering processes
d. ability to apply a systems approach to engineering problems through know-how of the application of the relevant technologies

3. Design awareness, will normally include
a. knowledge and understanding of problems, constraints, solutions and adaptations to meet user needs
b. ability to ensure fitness for purpose (operation, maintenance, reliability etc)

Upon completion of your Technical Report, please submit 3 copies in total, endorsed by your Mentor, together with the Technical Report assessment fee.

The Technical Report Interview

If CIBSE's Assessors consider your Technical Report to be satisfactory, you will be invited to discuss it at a Technical Report Interview at CIBSE's head office in London. The Interview fee will be payable at this stage. At the interview, you will be invited to make a brief presentation, after which the interviewers will question you about what you have written.

At this stage, the above Technical Report judging criteria will be used.

Professional Review Interview

If you are successful at Technical Report Interview stage, a Professional Review will follow immediately. It will not normally be necessary to make a separate appointment.

On this occasion the interviewers will review the file note of your original *Competence Review* for CIBSE membership, and invite you to update it by talking about recent developments in your career. You should also be prepared to discuss your Development Action Plan for CPD.

The criteria applied at Professional Review stage are the CIBSE Competence Criteria set out in *fact sheet A21*.

The stages set out in this fact sheet are summarised in the flowchart on the next page.

Additional Details

Fees

The fees currently applicable to the Technical Report route are as follows:

	Amount	Payable
Administration Fee	£90.00	with initial application
Technical Report Assessment Fee	£140.00	with submission of the Technical Report
Interview Fee (Technical Report + Professional Review)	£160.00	on approval of the Technical Report, prior to the interview stage

Dates

The CIBSE will accept applications for the Technical Report route at any time. Please note, however, that you will need to have successfully completed the application process for ACIBSE before being eligible for the TRR.

Cancellations

In the event that you cancel your interview, CIBSE may make an administrative charge.

Further Information

Further information and guidance is available from the Membership Officers at CIBSE Head Office during office hours, on 020 8675 5211, or on the CIBSE website, www.cibse.org.

Technical Report Route Flowchart

The flowchart below shows the main stages of the Technical Report Route to Engineering Council registration. Please note that progression is subject to the successful completion of each stage of the process.

