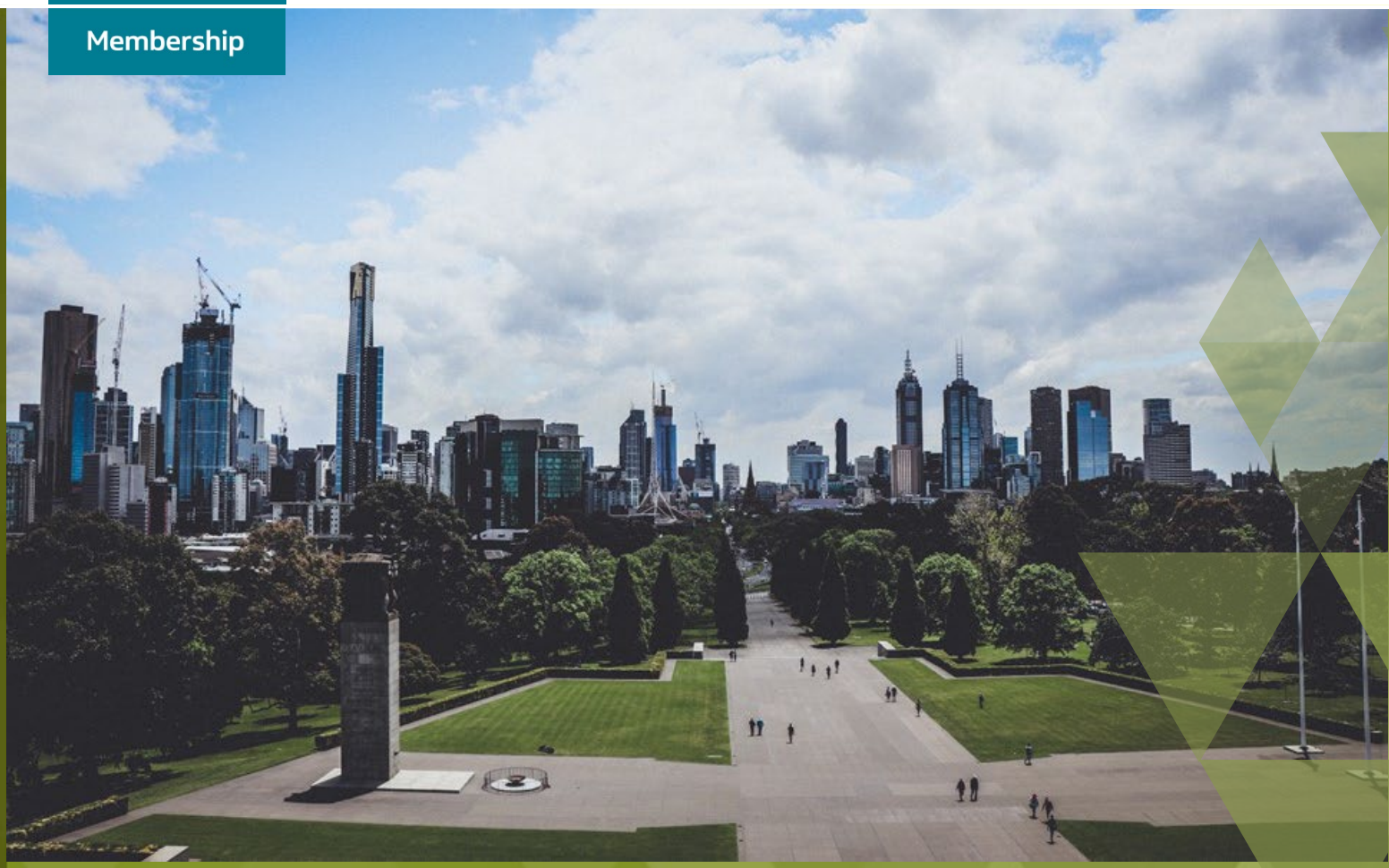
Institution of Civil Engineers

Membership



Civil Engineering Senior Technician Apprenticeship Level 4
Version 1.1

End Point Assessment guidance

Contents

Introduction

This document provides detailed guidance for the End Point Assessment (EPA) for the Level 4 Civil Engineering Senior Technician apprenticeship version 1.1 (ST0046).

This version applies if you began your apprenticeship after 1 July 2022. If you started your apprenticeship before 30 June 2022 you must follow the guidance for version 1.0.

This document also explains in Appendix D what to submit if you want to apply for qualified Membership of ICE and professional registration as an Engineering Technician (EngTech MICE) at the same time as your EPA.

If you have any questions or need assistance in preparing for your EPA, please contact the EPA team on +44 (0)20 7665 2344 or email epa@ice.org.uk.

EPA Gateway

Before you can apply for your apprenticeship End Point Assessment (EPA), you (the apprentice) must have successfully completed all aspects of your apprenticeship.

Your employer must be satisfied that you are working at or above the level set out in the occupational standard. In making this decision, your employer may take advice from your training provider(s), but the decision must ultimately be made by your employer.

In addition to your employer's confirmation that you are working at or above the level in the occupational standard, you must submit the following to ICE:

- Completed application form signed by your employer.
- Evidence of achievement of English and Mathematics at level 2[1] (or equivalent)
- Evidence that you hold a level 4 qualification in Construction and Built Environment that meets the knowledge requirements of the standard and is approved by the Engineering Council as meeting the learning outcomes specified for Engineering Technician (EngTech) at level 4 [2]
- Your portfolio of evidence to underpin the profession discussion (assessment method 2).

[1] For those with an education, health and care plan or a legacy statement, the apprenticeship's English and mathematics minimum requirement is Entry Level 3. British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

[2] This should be your qualification certificate or screenshot from the Pearson portal, which lists the units you studied and their marking grade, together with a letter from your training provider on company header paper stating your ULN number, the title and level of your award and its start and completion date, confirming that you have passed the appropriate qualification for your apprenticeship and that they agree you have completed the Gateway for your EPA.

ICE will check and confirm that the gateway requirements have been met. You will not be able to start the EPA process until confirmation has been received from ICE. Any information or documents missing from your application may therefore delay your intended EPA date. If you also intend to apply for EngTech MICE with your EPA, please follow the additional guidance in Appendix D.

Portfolio of evidence

You must compile a portfolio of evidence during the on-programme period of your apprenticeship and submit this to satisfy the gateway requirements. The portfolio will be used to inform the questioning for the professional discussion (assessment method 2). ICE has developed a template which you may wish to use as a guide when compiling your portfolio please contact EPA@ice.org.uk to request a copy.

Your portfolio should only contain evidence related to the Knowledge, Skills and Behaviours (KSBs) that will be assessed by the professional discussion (please refer to Appendix B). It will typically contain 12 discrete pieces of evidence which should be mapped against the KSBs. You should provide a short description against each piece of evidence which explains which KSBs the evidence relates to and your involvement.

The evidence provided should be valid and attributable to you (the apprentice) and your portfolio of evidence should contain a statement from your employer and you (the apprentice) confirming this.

Evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested.

Evidence must cover the following areas:

- design, technology and modelling in civil engineering
- project management and safe systems of working
- roles, responsibilities and engagement with others
- personal and professional practice

Evidence sources may include evidence of work undertaken which may be supported by:

- civil engineering designs
- technical drawings
- CAD/BIM models
- technical briefs
- industry specifications
- industry standards

- project plans
- client or customer feedback
- witness statements
- employer/trainer feedback
- initial and continuous professional development and training records
- appraisal records
- training course completion

This is not a definitive list and other evidence sources can be included.

Your portfolio should not include reflective accounts or any methods of self-assessment. Any employer contributions should focus on direct observation of performance (for example witness statements) rather than opinions.

Your portfolio of evidence is not directly assessed as it underpins the professional discussion (assessment method 2). Your assessor will review your portfolio to prepare questions for the professional discussion.

Preparing your Technical Project report and presentation

You will be required to submit a technical project report and presentation which should appropriately cover all the KSBs assigned to the technical project report and presentation (assessment method 1) please refer to Appendix B. The presentation must be based on your report. Your report will be based on a technical project brief issued to you by ICE after completion of the gateway which will be aligned to your engineering specialism.

The technical project brief will be based on a high-level challenge which can be met based on the skills and experience that you have gained in the workplace, and the brief will provide guidance on how to plan the project and how to present the report.

You will have **6 weeks** to complete the project report and presentation. Your report must be 3500 words, plus or minus 10%. Appendices, references and diagrams are not included in this total. Your report must map, in an appendix, how it evidences the KSBs for assessment method 1.
Your technical project report must include:

- an introduction
- the scope of the project, methodology and timeline for key tasks
- research and findings: data collection, analysis and evaluation appropriate to the technical project and level of apprenticeship

- reference to:
- relevant scientific and engineering principles and theories
- relevant techniques, procedures and methods used
- relevant drawings and mathematical calculations at level 4
- the use of appropriate and approved materials, components or parts
- relevant industry policies, standards, regulations and legislations
- environmental and sustainability concerns
- cost, quality, safety, security, environmental impact and lifecycle of civil engineering solutions
- project outcomes and the rationale for the chosen project solution presented
- conclusions

- Appendices - You must include appendices of supporting evidence relating to your technical project. One of your appendices must map how your report evidences the KSBs for this assessment method. Example appendices of supporting evidence may include plans, diagrams, calculations, designs, feedback, video clips. This is not a definitive list and other sources of evidence, apart from self-reflection, are permissible.

Your technical project report and all appendices of supporting evidence directly demonstrating performance of the KSBs must be attributable to you (the apprentice) in full. They must be accompanied by a witness statement outlining your contribution, signed by you and your employer to authenticate it.

Your report should have a professional layout with table of contents and appendices, and could include items such as tables of figures, lists of abbreviations etc. which are not included in the word count. Hyperlinks should be used to link between the report sections, but **not** to items outside the application itself.

You must ensure the file can be viewed on a laptop screen and is also printable in the correct format and can be read in black and white.

Presentation

Your presentation speaker notes and supporting materials must be created and submitted with your project report. Your presentation should last 10 minutes and must include:

- an overview of the project
- the project scope (including key performance indicators)
- summary of actions undertaken by the apprentice
- project outcomes and how these were achieved

The presentation should be clearly structured using a balance of words and graphics to explain your ideas. When including scans of drawings, ensure that they are clean and clear to read.

When you submit your presentation, you must notify us of any technical requirements for the presentation.

Plagiarism

Plagiarism is presenting the work of others as your own. This means using words or ideas, for example, without the permission of the original author or authors, or without their acknowledgement. Plagiarism must be avoided at all times, and this includes any reports, drawings and presentations that you submit.

Here are some guidelines to help avoid plagiarism:

- Don't cut and paste material from others
- Where you have directly quoted others, or the work of others, attribute the source fully and, where appropriate, use quotation marks. As a rule of thumb, material derived from others should be considered a quote, unless it's assumed to be common knowledge – for example, standard equations that are in the public domain

Plagiarism is taken seriously by ICE. Should there be concerns about your submission, ICE will investigate including using plagiarism detection software. If this shows significant levels of similarity with any unattributed sources, your assessors will be informed, and you will be contacted by ICE and asked to provide an explanation.

Collusion

In the context of the EPA, collusion is any agreement to conceal someone else's contribution to your piece of work. The guidance above equally applies to avoiding collusion.

If an allegation of plagiarism or collusion is made relating to your application for the EPA, no result will be given until an investigation has taken place.

Plagiarism and collusion may lead to a ban on applying for membership or, for existing members, permanent expulsion as an ICE member.

Malpractice and Maladministration

In the event of concerns raised by the Assessors of any malpractice of maladministration during the EPA, these will be reported to the ICE and an investigation undertaken, no result will be given until the investigation has been undertaken

Applying for your End Point Assessment

It is your responsibility to check that your EPA date falls before the registered end date (RED) of your apprenticeship, and you are advised to check this with your employer and training provider. If it does not fall before your RED, you could be withdrawn from your apprenticeship.

Application deadlines and EPA dates

Please visit the key dates page here for application deadlines and EPA dates.

Applications for End Point Assessment can be submitted via the EPA portal until 31 May 2024.

From 1 June 2024 ICE will no longer accept applications using the portal, all applications for End Point Assessment must be submitted by your Training Provider using the ACE360 portal. We recommend that you contact your Training Provider directly to discuss submitting your application for End Point Assessment.

In-person End Point Assessment

ICE runs both online and in-person EPAs: online offers greater flexibility and supports carbon savings.

You will be able to indicate your preference when applying, but we may need to allocate you to the other interview format depending on the assessors you are matched with.

We recognise some apprentices will have specific individual requirements and we will of course do our best to meet any such needs. Please see Appendix A) if this applies to you.

Please note that, as part of ICE's commitment to minimising its carbon footprint, our default position is that we will not accept requests from apprentices who need to fly to attend an in-person EPA session.

Membership Number or non-member account

Before you apply, you will need an ICE membership number. If you don't already have one, please create a non-member account by registering with MyICE. This will enable you to make payments online and access information on our website tailored to your particular interests. You will find your membership or account number within the "My Profile" section in your MyICE account.

Making your application

- A completed application form
- Evidence of achievement of English and mathematics at level 2[3]
- Evidence that you hold a level 4 qualification in Construction and Built Environment that meets the knowledge requirements of the standard and is approved by the Engineering Council as meeting the learning outcomes specified for Engineering Technician (EngTech) at level 4[4]
- Your portfolio of evidence mapped to the KSBs to underpin the professional discussion (assessment method 2).

If you intend to apply for EngTech MICE with your EPA, you will also need to ensure your qualification is approved for EngTech registration and you will also need to complete section 3 of the application form.

Submitting your application

If you are submitting your application for your End Point Assessment before the **31st of May 2024**, you must submit your documents through the EPA application portal as a single PDF file of no more than 5mb. You must make sure that all items on the application checklist are included in your application before you upload it. If applying for professional registration you must confirm your sponsors have submitted their statement of support before you submit your application.

After your application is submitted, you will receive an automated response on screen confirming your application was uploaded. If you experience issues with the portal, please call us on +44 (0)20 7665 2344 or email epa@ice.org.uk.

From **1 June 2024** ICE will no longer accept applications using the portal, all applications for End Point Assessment must be submitted by your Training Provider using the ACE360 portal. We recommend that you contact your Training Provider directly to discuss submitting your application for End Point Assessment.

Gateway completion and technical project brief

ICE will check your application and contact you and your employer to acknowledge receipt and confirm gateway completion or, if necessary, request any missing documents. You will have 2 working days to provide the missing information. Failure to provide the correct documentation at the

[3] For those with an education, health and care plan or a legacy statement, the apprenticeship's English and mathematics minimum requirement is Entry Level 3. British Sign Language (BSL) qualifications are an alternative to English qualifications for those who have BSL as their primary language.

[4] This should be your qualification certificate or screenshot from the Pearson portal, which lists the units you studied and their marking grade, together with a letter from your training provider on company header paper stating your ULN number, the title and level of your award and its start and completion date, confirming that you have passed the appropriate qualification for your apprenticeship and that they agree you have completed the Gateway for your EPA.

time of application could lead to a delay in your EPA, so please check your application carefully before submitting it.

If your application is complete, ICE will formally acknowledge your application and provide you with the details of your Technical Project brief.

ICE will also inform your training provider that you have made an application for EPA.

Payment for EPA

ICE will request payment for your EPA directly from your training provider. Payment must be received before your EPA date. If it is not, we may still allow your EPA to take place but we will not issue the result until payment has been received. We will notify you of any delays in payment.

Application form content

Section 1

This section must be completed by your employer, who must confirm that you are consistently working at or above the level set out in the occupational standard and are ready to undertake your EPA.

Technical project options: Your employer must indicate the most appropriate combination of employment type, technical specialism and scenario so that we can assign you a suitable brief for your technical project report and presentation.

To do this they will need to contact the EPA team to obtain the current scenario options and enter the code provided in the application form.

Section 2

You should complete all sections of the application form, which also includes a section for information on any individual requirements (see below), and your unique learning number (ULN).

Training provider

You must provide full details of your training provider, as this will help with requesting payment for your EPA.

Your education details

List your academic qualification/s in the table provided on the application form and include a copy of the qualification certificate[5].

[5]. This should be your qualification certificate or screenshot from the Pearson portal, which lists the units you studied and

Diversity data

ICE is fully committed to valuing and representing the diversity of our members and applicants. As part of your application, you will be asked a few questions about your background to help us achieve this. We recommend that you submit this data directly online within "My Profile" of your MyICE account. The information you provide will only be used in an aggregated form and you will never be individually identifiable. You can opt to decline to answer each or any of the questions if you wish.

Find out more about ICE's diversity and inclusion policy.

Individual requirements

If there are individual requirements that you would like taken into account at your EPA, you must state these when you apply – for example, if you have a sensory or physical impairment, or if there are commercial or security restrictions on what you can discuss about a particular project you've worked on, or there are reasons you are not able to attend the EPA on a certain date. You can find out more in Appendix A.

If you wish to speak to a member of staff in confidence regarding your requirements, please email epa@ice.org.uk and we will arrange a time to speak to you.

EPA session and format

You need to indicate the session you wish to apply for and your preference for online or in-person EPA. Please visit the ICE website for the session details.

Apprenticeship certificate

As the End Point Assessment Organisation (EPAO), ICE is required to request your completion certificate from the Institute for Apprenticeships and Technical Education (IfATE). We require your approval to be able to make this request on your behalf if you are successful at your EPA.

Applying for Professional Registration

If you are applying for EngTech MICE with your EPA, you will also need to ensure that your qualification is approved for EngTech registration, complete section 3 of the application form and provide additional information – see Appendix D for details.

their marking grade, together with a letter from your training provider on company header paper stating your ULN number, the title and level of your award and its start and completion date, confirming that you have passed the appropriate qualification for your apprenticeship and that they agree you have completed the Gateway for your EPA.

The Assessment Methods

Keeping to the assessment timeline

The EPA assessment plan sets clear milestones, and it is important that you adhere to those timings – both for the integrity of the assessment and out of respect for your assessors who will be preparing carefully for your EPA.

Please note that you will fail the EPA if you do not submit your report / presentation on time, or if you do not attend the EPA day (i.e. the presentation / interview), without submitting a reasonable and timely request to defer the EPA.

Deferrals

ICE may agree to defer the EPA (i.e. to reschedule it) if exceptional circumstances prevent you from submitting your presentation / report on time or from attending the EPA day.
We recognise the following three criteria as grounds for requesting a deferral, subject to supporting evidence being provided:

i. Medical
ii. Bereavement
iii. Local Emergency

ICE may also consider situations which fall outside of these criteria if you can provide evidence to show that failure to attend your EPA or submit your report / presentation was due to circumstances beyond your control.

If you need to defer your application after receiving confirmation of the date of your EPA, you must inform ICE immediately on +44 (0)20 7665 2344 or at epa@ice.org.uk. You should notify your training provider, employer and lead sponsor as well.

After notifying ICE, you will be given 10 working days to supply your evidence for deferral, although in most circumstances we would expect that evidence to be submitted directly. If you do not submit the evidence within 10 working days, a deferral will not be granted, and your EPA will be recorded as a fail.

Once submitted, ICE will review your deferral request and supporting evidence and consider whether the request is reasonable – both in terms of the grounds for no longer meeting the assessment schedule and in terms of whether you have notified ICE promptly. ICE will then advise whether a deferral will be granted or whether the EPA will be recorded as a fail. You may use the ICE appeals process if you wish to challenge that decision. ICE will inform your employer and training provider of its decision.

Setting the EPA interview date

Subject to satisfying all gateway checks, we will provide you with the names of your two assessors, as well as the time and date of your EPA in an email at least six weeks prior to the date of your EPA. This notification will also include the deadline for you to submit your written report and presentation.

Under no circumstances should you contact your assessors.

ICE may allow you to sit your EPA if payment has not been received, but no result can be issued until payment has been received.

Unless you have opted for an in-person EPA, your EPA will be held online via MS Teams. For more details see our online guidance.

Conflict of interest

Your assessors should not be connected to either you or your employer. If you know one of your assessors or feel there may be a conflict of interest, you should let us know immediately on +44 (0)20 7665 2344 or at epa@ice.org.uk.

Your assessors will also have been given the opportunity to identify any conflicts prior to you being notified of who they are.

Submitting your technical report and presentation

Your technical project report and presentation must be uploaded to the EPA portal in a single PDF file within six weeks of receiving your Technical Project Brief. The date for submission will be set out in your acknowledgement letter.

The submission should include a cover page with the following:

- A recent photo of you
- Your signature and membership/non-member number
- The signature of the person who has verified your report and date of signature, together with their professional title/s (if applicable)

Initial assessment

Your technical project report will be checked by your assessors. If they agree your technical report is not of a satisfactory standard, your EPA will be deferred and details of why it is not satisfactory and what you must do next will be provided by the EPA team. Once you have addressed the assessors' comments, your EPA will be rearranged.

The EPA Process

EPA Assessment methods and grading

There are two assessment methods together with an overall performance grading required as part of the EPA. The assessment methods are:

1. Technical project with report and presentation
2. Professional discussion (underpinned by your portfolio of evidence)

The grading for each of the assessment methods are:

- Distinction
- Pass
- Fail

To be successful at the EPA your assessors must both be satisfied that you have demonstrated all the knowledge, skills and behaviours for both assessment methods. See Appendix C.

Assessment method 1 - Technical project report and presentation

The presentation with questioning will last for 30 minutes unless a reasonable adjustment has been applied.

You will start by giving a 10-minute presentation to your assessors, this will be followed by a 20-minute question and answer session to ensure that all KSBs assigned to this assessment method (see Appendix B) are covered in sufficient depth in your technical report and presentation. The assessors will ask at least 5 questions and may ask additional follow-up questions to seek clarification where required.

You are encouraged to use visual aids, if your EPA is online, it is your responsibility to make sure you have access to equipment you may need such as a flip chart and writing and drawing materials for your presentation. You will be able to present with these on screen via MS Teams as explained in our online EPA guidance. If your EPA is in-person, you will deliver your presentation seated across a table with visual aids no larger than A3. You should give your assessors hard copy handouts of your presentation on the day. You are permitted to use a laptop computer but note that an external power supply will **not** be provided.

Where specialist presentation or technical software is needed by you to enable you to deliver your presentation, for example, CAD or BIM, it is your (the apprentice's) responsibility to ensure that your chosen equipment and resources are in place for the presentation.

Assessment method 2 - Professional discussion

Immediately following the presentation and question and answer session, the professional discussion will take place. The professional discussion is a two-way discussion which involves both

you and your assessors actively listening and participating in a formal conversation. It gives you the opportunity to make detailed and proactive contributions to confirm your competency across the KSBs for this assessment method (see Appendix B).

- The professional discussion is to:
  - clarify any questions the assessors have from their review of your portfolio
  - explore aspects of the work, including how it was carried out in more detail
  - draw on your portfolio of evidence to demonstrate the KSBs

As a Civil Engineering Senior Technician, you will be expected to be able to discuss your findings and results of work-based tasks or projects in a formal manner. The professional discussion is to assess your competency against the KSBs for this assessment method (see Appendix B).

The professional discussion will last for 40 minutes. Your assessors can increase the time of the professional discussion by up to 10% which is 4 minutes, this time is to allow you to respond to a question if necessary.

You will be asked at least 6 questions and subsequent follow-up questions if necessary.

Results

To be successful at the EPA you must pass both assessment methods. See Appendix C.

We will let you know the result no later than 6 weeks after your EPA. After your result has been issued, ICE will apply for your Apprenticeship Completion Certificate.

If you are unsuccessful, you will be provided with the assessors' comments as to the reasons why, and this will help you to discuss your result with your employer.

Please note that the outcome of your EPA will be shared with your employer and training provider.

Re-sitting

If you are unsuccessful, you will only need to re-sit the component that you failed, you must apply to re-sit within 4 months of your original EPA date. The re-sit must be completed within 6 months of receipt of the outcome of your original EPA.

If you did not pass assessment method 1 you can request a new technical project brief, or you can re-work your original project report and/or presentation. In preparing for your re-sit, you and your employer should consider your assessors' feedback on areas where you did not demonstrate competence as detailed in your result letter.
A re-sit will typically be taken within 4 months of the date of your result letter. Failed EPA methods must be re-sat within a 6-month period from the EPA outcome notification, otherwise the entire EPA

will need to be re-sat in full. You will get a maximum grade of pass for a re-sit, unless ICE determines there are exceptional circumstances.

When preparing another application, you are advised to consult with your employer and, if you are also applying for professional registration with ICE, contact the Membership Support Team.

Appeals

You have the right to appeal where you feel there was an error in the process, or in cases of unforeseen events. Appeals must be received within two months of the date of your result letter. Appeals after this date will not be considered.

If you are considering an appeal, you are advised to consult with your employer, if you also applied for professional registration with ICE, contact the Membership Support Team.

If you wish to appeal, please read the appeals guidance.

Appendix A – Individual requirements

ICE is committed to making reasonable adjustments to our EPA process to accommodate specific individual requirements.

Individual requirements may include disabilities, specific learning difficulties (such as dyslexia), temporary conditions, and security clearance, or you are unable to attend EPA on a certain date or time, or travel for an in-person EPA.

Each application will be considered on a case-by-case basis in light of the applicant's needs. However, you need to tell us about your requirements in the space provided in your EPA application form. We will also need to see any evidence, e.g., certified documents or statements, which should be submitted at time of making your application.

Disability or sensory impairment

In line with the Equality Act 2010, we will make whatever 'reasonable adjustments' are required for candidates with a disability, such as dyslexia, speech impairment or sensory loss. For example, our Diversity and Inclusion Policy ensures everyone receives the same opportunities during the EPA process.

Listed below are some examples of reasonable adjustments made

- Giving extra time at the different elements of the EPA (up to 25%)
- Providing a scribe
- Providing a private room

However, this is just an example and ICE staff will contact you and discuss your own individual requirements prior to your EPA day, adjustment will

- not give the apprentice an unfair advantage
- reflect the apprentice's normal way of working and
- be based on the individual needs of the apprentice

You can speak to a member of staff in confidence regarding your requirements, please email epa@ice.org.uk and we will arrange a time to speak to you.

Security-mindedness and security clearance

You should consider whether information in your EPA submission should be omitted or reduced in its level of detail due to security reasons. However, there is no reason why this should detract from the quality of your report.

If your submission is affected by security issues, you should consider the following suggestions:

- Make your report non-site specific – for example do not state that the facility was on the Sellafield site or on the Hinkley site or that the asset serves a critical function to the site or country, or is or was vulnerable to various threats
- Do not state building numbers or names – it is sufficient to say 'nuclear facility' or 'nuclear store'
- Remove site and building names from drawings or snapshots of models
- Do not include photographs or other images which reveal the location of buildings and facilities
- Avoid stating, or showing in drawings or extracts from models, technical details (such as wall thickness) which may reveal security-sensitive information

If you work on a security-sensitive project, we recommend that your organisation's information security manager (and also that of the asset owner/client) reads your EPA submission and approves the content before submitting.

Familiarise yourself with the Engineering Council's guidance note on Security (published May 2016).

You should also let us know if you believe your assessors need security clearance.

Appendix B - Mapping of knowledge, skills, and behaviours (KSBs) to assessment methods

KSB code	KSB statement	Assessment Methods
Knowledge		
K1	Engineering principles, underpinned by relevant scientific, theoretical and technical knowledge and understanding to solve well-defined civil engineering problems	Technical project report and presentation with questioning
K2	Civil engineering techniques, procedures and methods used for civil engineering systems, to either measure and test, design, install, commission, maintain or operate	Technical project report and presentation with questioning
K3	Advanced mathematical, statistical and analytical problem-solving tools	Technical project report and presentation with questioning
K4	Properties of, and selection criteria for materials, components or parts used in civil engineering solutions	Technical project report and presentation with questioning
K5	Techniques and methods to collect data and technical information, to analyse and evaluate civil engineering problems	Technical project report and presentation with questioning
K6	Design principles and control processes used in the civil engineering consultancy, construction or manufacturing process, and the common constraints faced	Professional discussion underpinned by a portfolio of evidence
K7	Technical drawings, designs, and models, using analytical and computer-based software packages	Professional discussion underpinned by a portfolio of evidence
K8	Uses and limitations of computational and digital models, including Building Information Modelling (BIM)	Professional discussion underpinned by a portfolio of evidence
K9	Industry policies, standards, regulations and legislation, and codes of practice, including Building Safety legislation, Construction (Design and Management) (CDM) or Design Manual for Roads and Bridges (DMRB)	Technical project report and presentation with questioning

K10	Statutory health, safety and welfare policies, procedures, and regulations including the Construction (Design and Management) regulation	Professional discussion underpinned by a portfolio of evidence.
K11	Risk assessment and mitigation processes, and their importance in the civil engineering environment	Professional discussion underpinned by a portfolio of evidence
K12	Principles of sustainable development and their impact on the lifecycle of civil engineering solutions, including United Nations Sustainable Development Goals (UNSDG), net-zero carbon emissions, environmental policies and legislations, and the climate change act	Technical project report and presentation with questioning
K13	Project management techniques, including quality and information management and assurance systems and continuous improvement processes	Professional discussion underpinned by a portfolio of evidence
K14	Methods for planning and resourcing civil engineering tasks, and the impact on cost, quality, safety, security, and environment	Technical project report and presentation with questioning
K15	Methods of communication and when to use them, using appropriate engineering terminology and conventions	Technical project report and presentation with questioning
K16	Roles and responsibilities within the organisation, team dynamics and their own boundaries of authority	Professional discussion underpinned by a portfolio of evidence
K17	Relationships between key organisations in the civil engineering sector (for example organisations, customers, partners and suppliers)	Professional discussion underpinned by a portfolio of evidence
K18	Equality, diversity and inclusion, its importance and impact on civil engineering solutions	Professional discussion underpinned by a portfolio of evidence
K19	Ethical principles as applied to civil engineering including the need for the confidentiality and security of data and information	Professional discussion underpinned by a portfolio of evidence
K20	Methods to maintain professional competence and technical knowledge including initial professional development (IPD) and continuing professional development (CPD)	Professional discussion underpinned by a portfolio of evidence

Skills		
S1	Apply engineering principles, using relevant scientific, theoretical and technical know-how to solve well-defined civil engineering problems	Technical project report and presentation with questioning
S2	Apply civil engineering techniques, procedures and methods, and review the results, when measuring and testing, designing, installing, commissioning, maintaining or operating civil engineering systems	Technical project report and presentation with questioning
S3	Employ a range of advanced mathematical, statistical and data interpretation tools, using analytical and computational methods to interpret and solve civil engineering problems	Technical project report and presentation with questioning
S4	Interpret and compare performance information to choose compliant materials, components or parts	Technical project report and presentation with questioning
S5	Select and use technical literature and other sources of information and data to address well-defined civil engineering problems	Technical project report and presentation with questioning
S6	Produce and interpret civil engineering technical drawings, designs, and models, using analytical and computer-based software packages, recognising the limitations of the software used	Professional discussion underpinned by a portfolio of evidence
S7	Produce civil engineering technical solutions in accordance with relevant industry standards, procedures, codes of practice, regulations, and legislation	Technical project report and presentation with questioning
S8	Comply with, and encourage others to demonstrate, statutory health, safety and welfare policies, procedures and regulation	Professional discussion underpinned by a portfolio of evidence
S9	Complete risk assessments to identify, evaluate and mitigate risks	Professional discussion underpinned by a portfolio of evidence
S10	Apply principles of sustainable development, and assess the impact of these in their work	Technical project report and presentation with questioning
S11	Employ project management techniques, measuring and recording progress against civil engineering project plans	Professional discussion

		underpinned by a portfolio of evidence
S12	Assess and report on quality using appropriate management and assurance systems and continuous improvement processes	Professional discussion underpinned by a portfolio of evidence
S13	Identify and use resources, equipment and technology to meet project requirements, including specifications, budget and timescales	Technical project report and presentation with questioning
S14	Monitor and manage individual performance, and supervise others, recognising the need to comply with appropriate codes of practice and equality, diversity & inclusion (EDI) requirements	Professional discussion underpinned by a portfolio of evidence
S15	Communicate using appropriate methods for the audience, using appropriate engineering terminology and conventions	Technical project report and presentation with questioning
S16	Apply ethical principles to civil engineering projects, including the secure use of data and information	Professional discussion underpinned by a portfolio of evidence
S17	Plan, undertake and review their own professional competence, updating and reviewing their CPD to improve performance	Professional discussion underpinned by a portfolio of evidence

Behaviours		
B1	Works to health, safety and welfare requirements, industry standards, statutory regulation and legislation, policies, and codes of practice, and ensuring others do likewise	Professional discussion underpinned by a portfolio of evidence
B2	Makes independent decisions when delivering civil engineering projects, whilst knowing their own limitations and when to ask for help or to escalate	Technical project report and presentation with questioning
B3	Works individually and as part of a team, being aware of their actions and the impact they may have on others, and demonstrating awareness of diversity and inclusion issues so as to meet the requirement of fairness at work	Professional discussion underpinned by a portfolio of evidence
B4	Solves problems with attention to detail, accuracy, and diligence, and seeks to continually improve	Technical project report and presentation with questioning
B5	Maintains professional and ethical working relationships with internal, external, and other stakeholders	Professional discussion underpinned by a portfolio of evidence
B6	Takes responsibility for their own professional development, seeking opportunities to enhance their knowledge, skills, and experience, and support others when requested	Professional discussion underpinned by a portfolio of evidence

Appendix C - Grading

Technical project report and presentation with questioning

ICE	EPA Pass criteria	EPA Distinction criteria
1. UPAE	▪ Applies and interprets appropriate **engineering principles**, scientific, theoretical, and technical knowledge and techniques, procedures and methods to the civil engineering problem outlined in the technical project brief and assesses the outcomes ▪ Uses **advanced mathematical, statistical, and analytical techniques** to interpret and solve the civil engineering problem outlined in the technical project brief	▪ Evaluates the effectiveness and relevance of the **methods and techniques** used, justifying those adopted to solve the civil engineering problem
	▪ Collects, analyses, and evaluates **data and technical information** accurately using appropriate techniques and methods, explaining the different types and uses of information in relation to the civil engineering problem outlined in the technical project brief	▪ Justifies the **techniques** adopted to solve the problem presented ▪ Justifies the use of specific types of **information** in support of the civil engineering solution proposed
	▪ Explains the choice of **materials, components or parts** used to solve the civil engineering problem outlined in the technical project brief, based on their properties, performance, and approved use	▪ Discusses their approach to **materials, components, or parts** in terms of building safety and sustainable practice, and how this can improve the performance of the civil engineering solution proposed (K4, S4). Explains how the choices of materials, components, parts promote sustainable practice and safety
	▪ Interprets and applies relevant **statutory and regulatory requirements**, industry policies, standards, regulations, and legislation and codes of practice to the technical project solution presented	▪ Evaluates the impact of **industry standards, regulations or guidance** related to their project solution

2. ML **3. CA**	▪ Formulates and applies **project planning techniques and tools** in relation to the civil engineering technical project, identifying appropriate specifications, and the resources, costs, and timescales for delivery. Discusses the potential effects that **cost, quality, safety, security, and environmental impact** on the lifecycle of the civil engineering solution	-
	▪ Explains how they made **independent decisions** during the project, and how they determined they were within their own limitations, and where beyond their limitations, how they sought support	▪ Appraises **own performance** when managing this project by comparing the outcomes of initial planned resources, timescales, and costs against actual outcomes, and making recommendations that would further improve own performance
5. SD	▪ Apply principles of **sustainable development**, environmental policies, and legislation in civil engineering projects, recognising the need to reduce carbon use, lower emissions, and plan for wider sustainability	▪ Evaluates how the civil engineering solution proposed could be improved for **increased sustainability or reducing the impact** on the environment
6. ISC	▪ Uses appropriate **communication techniques and methods** for all project outcomes, incorporating relevant and appropriate terminology, and appropriate forms of referencing and citation in the written report and presentation	-

Professional discussion underpinned by a portfolio of evidence

ICE	EPA Pass criteria	EPA Distinction criteria
1. UPAE	▪ Explains the principles and control processes used, and the common constraints faced, in the production of **designs** for civil engineering	▪ Evaluate the impacts of the functional characteristics on the **design solution**
	▪ Explains how they effectively use **analytical and computer-based software packages** to prepare, produce and interpret civil engineering solutions.	-
	▪ Explains the use and importance of **digital modelling techniques**, such as Building Information Modelling (BIM), and their limitations, within civil engineering	▪ Explains how **digital modelling techniques** are used to improve civil engineering solutions
2. ML **3. CA**	▪ Discusses **project management principles** and techniques used in civil engineering, explaining the techniques for recording and reporting progress, the relationship between project quality requirements and the need for continuous improvement	▪ Evaluates different **management techniques** used for various types of projects
	▪ Explains how they monitor and manage their **own performance** at work, and how this impacts others in their team.	-
4. HSW	▪ Describes how they apply health & safety regulations and legislation, and discusses the importance of, and how, **safe working practices** are implemented and fostered in civil engineering using Construction (Design and Management) (CDM) ▪ Identifies, evaluates, and mitigates the **hazards and risks** within civil engineering, using appropriate risk assessment methods	▪ Evaluates the impact of **health and safety legislation**, how it has benefitted through changes in legislation within civil engineering

6. ISC	▪ Describes the **roles and responsibilities** found in a civil engineering organisation, and the methods for performance evaluation ▪ Describes the **key stakeholders** in civil engineering, the importance of communication, collaboration, and decision-making processes to achieve contractual requirements and project success ▪ Explains how they monitor and manage their **own performance** at work, and how this impacts others in their team.	▪ Evaluates the success of teams by considering **individual and group working** practices
	▪ Describes the importance of **equality, diversity, and inclusion**, how it supports fairness at work, and impacts civil engineering solutions	-
7. PC	▪ Explains how they apply **ethical principles** to civil engineering projects, including the secure use of data and information	-
	▪ Describes the methods for **developing (IPD) and maintaining (CPD)** professional competence and technical knowledge, and explains how they plan, undertake, review, and improve their own professional competence, and supports others when requested	▪ Discusses how they use their own performance to inform and **improve their own or others' practices**

Appendix D - Applying for qualified Membership of ICE and Engineering Council registration

If you would like to gain qualified membership of ICE (MICE) and Engineering Technician (EngTech) registration with the Engineering Council when you sit your EPA, you must complete and sign section 3 of the application form and provide:

- Your Continuing Professional Development (CPD) records
- Details of two sponsors who must each submit a statement of support

You will also need to demonstrate in the professional discussion that you:

- Understand and comply with the ICE Code of Conduct

Please note that if you pass your EPA, you will be registered at EngTech level subject to paying the relevant Engineering Council entry fee and subsequent annual fees, as well as an annual ICE Technician Member subscription fee.

You will be notified in your result letter when you can use the designatory letters of EngTech MICE.

Continuing Professional Development (CPD) records

Your CPD records show us the training and development activities you have completed and the objectives you have set to ensure that you continue working as a skilled and competent Engineering Technician. They comprise:

- **Development action plan (DAP)** – This will detail your personal development objectives for the current/forthcoming year. A copy of your personal employer appraisal showing your objectives for the current/forthcoming year is acceptable in lieu of a DAP

- **Personal Development Record (PDR)** – This will detail the training and development you have undertaken. It should include a minimum of 30 hours of effective learning per year. We normally expect to see three years of records if your experience allows it although one (30 hours) is acceptable. It should describe all the training you have completed.

For more information on how best to plan and record your CPD, please read our CPD guidance

Sponsors

Your application must be supported by two sponsors who can confirm your suitability for ICE membership. They must each complete a sponsors statement of support and upload it to the EPA sponsors portal one week before you submit your application - see here for the deadlines. You must check they have done this before submitting your application.

It is important that you read the sponsor statement of support form before you select your sponsors as it provides guidance as to who is eligible to sponsor your application and what they are required to do.

You must select one sponsor to be your 'lead sponsor' and one to be a supporting sponsor. The lead sponsor must be an ICE Member or Fellow registered at the same grade or higher than the one you are applying for, as they have a responsibility to mentor you during the submission process and play an important part in the success of your application. Your other sponsor does not have to be an ICE Member or Fellow but must be a registered member of a Professional Engineering Institution at EngTech, IEng or CEng level.

Your lead sponsor:

- Has a duty to act as a mentor during the EPA submission process
- Should be familiar with the current ICE requirements for membership and registration with Engineering Council. Your lead sponsor could, for example, provide constructive criticism of your report, advice on the presentation and arrange practice interviews

If you have to re-sit your EPA, your sponsors must submit new statements of support. If your original sponsors are unable to support your application again, you'll need to find new ones.

Admission Procedure 3

After receipt of your application, your name will be published on ICE's website for a minimum of 28 days in accordance with ICE's Admission Procedure 3.

If you are successful and you have given permission in your application form, your name will be published on ICE's website.

Unspent convictions

No person with an unspent conviction relating to a serious criminal offence[6] will be admitted to any grade of membership unless there are special circumstances that show beyond reasonable doubt that the person is a fit and proper person to be admitted to membership of the Institution.

If you have an unspent conviction relating to a serious criminal offence, please complete our unspent convictions form. It must be signed by your sponsors and submitted with your application. A member of staff will contact you directly and in confidence.

[6] "Serious Criminal Offence" means an offence involving dishonesty or deception or any offence punishable by a Court of competent jurisdiction by a term of imprisonment of 12 months or more (whether or not any custodial sentence is in fact imposed).

Our vision

Civil engineers at the heart of society, delivering sustainable development through knowledge, skills and professional expertise.

Core purpose

- **To develop and qualify professionals engaged in civil engineering**
- **To exchange knowledge and best practice for the creation of a sustainable and built environment**
- **To promote our contribution to society worldwide**

Diversity statement

As a membership organisation and an employer, we value diversity and inclusion - a foundation for great engineering achievement

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