

ENGINEERING TECHNICIAN APPLICATION GUIDANCE



EngTech MPWI

YOUR PWI PROFESSIONAL REGISTRATION JOURNEY	Application	Review	Interview (if required)	Membership Committee
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ABOUT THIS FORM	This guide will provide you with support and advice as you complete and submit your application to become a professionally registered Engineering Technician with the Permanent Way Institution.			
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GUIDANCE NOTES	We have made the application process as straightforward as possible so you can focus on using it to demonstrate your professional and personal skills that will enable you to achieve your professional registration. These guidance notes clearly outline what is required and provide useful examples for your reference.			
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FURTHER HELP	Please read and review this guidance before starting your application. If you have any questions or queries at any stage of the application process, please contact our Professional Registration team. For further help: +44 (0)300 373 6000 (option 2) profeng@thepwi.org www.thepwi.org			
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APPLICATION PROCESS	The application process comprises the following steps: 1. Review this Guidance and the Competence & Commitment Criteria 2. Identify a Sponsor and a Supporter 3. Complete the EngTech Application form with signatures 4. Submit the Application form with: a. Application fee b. Supporting evidence (not exceeding 12 A4 sides and 3 A3 drawings) c. Personal Development Plan for the current 12 month period d. CPD records for the past 12 months 5. Two Reviewers independently assess and confirm the criteria is met and recommend election 6. Receive the Membership Committee's decision			
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What is Professional Registration?

Professional registration is recognition that an individual's knowledge, understanding and competence meets the internationally recognised standard for the engineering profession and that the individual is committed to keeping these up to date and acting with integrity in the public interest.

What is the standard?

The United Kingdom Standard for Professional Engineering Competence (UK-SPEC) is the standard that governs the engineering profession. It is published by the Engineering Council, the UK regulatory authority of professional engineers and technicians.

UK-SPEC provides a framework for assessment and describes the five competence and commitment requirements you must meet before you can register as a professional Engineering Technician.

What do we mean by competence?

Competence is the ability to apply learned knowledge and skills to perform a task correctly. It is more than just a basic understanding of an activity. It is being able to correctly do a task consistently and efficiently. It is reviewing your work and knowing what went well and what to improve next time. This requires the right level of knowledge, understanding and skills, combined with the right values and a professional attitude.

What do we mean by commitment?

Registered engineers and technicians demonstrate a personal and professional commitment to society, their profession and the environment. They are required to show they have adopted a set of values and behaviours that will maintain and enhance the reputation of the profession.

To become registered through the PWI you must provide evidence of:

- Complying with the PWI Code of Professional Conduct (Annex B)
- Understanding the **safety** implications of your role and applying safe systems of work
- Undertaking engineering activities in a way that contributes to sustainable development
- Carrying out CPD necessary to maintain and enhance competence
- Understanding ethical issues

The PWI Competence & Commitment criteria (Annex A) fully comply with UK-SPEC. The PWI require an enhanced focus on safety and candidates must demonstrate their absolute commitment to the application of safe systems of work and understand the safety implications of their role.

How do you demonstrate your competence and commitment?

The Engineering Technician application form's easy structure enables you to demonstrate how you meet the competence and commitment needed to become registered.

Through formal studies and / or the course of your career you will have gained engineering knowledge, experience and skills. You need to use this experience to answer the professional, personal and safety competence and commitment questions to demonstrate that you possess the professional and key personal skills required for PWI EngTech registration.

How do we assess your competence and commitment?

Two of your trained peers will independently assess your application (Reviewers). If you are deemed to meet the required standard, you will be recommended to our Membership Committee for registration with the Engineering Council at Engineering Technician level.

What are the long-term obligations of Professional Registration?

To stay on the Register you must pay an annual Engineering Council fee and remain a member of the PWI. This ensures you are exposed to the latest industry thinking and development opportunities. In your application you will demonstrate that you are committed to maintaining and enhancing your competence. It is also important you acknowledge and accept that recognition as a professional Engineer requires an on-going commitment to your competence, and obligations to the profession and society. You will be required to keep an up to date CPD record which could be subject to periodic evaluation by the PWI.

General guidance

- Type using a black font or complete in block capitals using black ink only
- Complete all applicable fields in the application form
- Stay within word limits and do not exceed the space available
- Answer all aspects of all questions
- Write all answers in the first person and avoid any company jargon and unexplained acronyms and abbreviations
- Emphasise what you did and how you made a difference or had an influence, and what you learned
- Remember - the Reviewers know nothing else about you other than what you submit
- Be clear and succinct
- Supporting evidence is encouraged but must not exceed x12 A4 sides and x3 A3 drawings. Extracts are permitted – eg from reports or presentations. Make sure it is clearly labelled and cross referenced to the written answer
- Your submission is not a job application; it is about what you have achieved
- Ensure there are no spelling or grammatical errors – ask someone to proof read it. Take pride in your submission
- Save the application form and supporting evidence as pdfs (not jpg, docx or xlsx etc)
- Ensure files are no more than 10MB.



SECTION 1: About you

In this section we ask for your personal, employment and qualification details.

Part A Personal details

Please complete all the fields and ensure you include your PWI membership number.

Part A Employment details

We ask you to provide this information to demonstrate the level of responsibility you hold and your accountability within the organisation you work for.

Select the most relevant and appropriate engineering classification and discipline for your career.

Part B Qualifications, work-based learning and certified certificates

Becoming a professionally registered Engineering Technician is not dependent on qualifications. However, some qualifications can support your registration (typically Level 3 or above) and this is your opportunity to highlight any you may have obtained. Please provide full details of any approved award(s) such as City & Guilds, Advanced Modern Apprenticeship, NVQ, SVQ, HND, HNC etc and any other engineering qualifications you have achieved. Include the dates and establishments through which you studied.

You must include copies of all related certificates, which must be signed by your Sponsor to verify they are a true copy of the original.

Short courses you have completed at work can also help to support your application and should be detailed in your CPD record. Copy certificates are not required. For example, PWI training courses, software training, NEBOSH courses.

SECTION 2: Competence and commitment evidence

Part A Career history

Experience in the workplace is vital to professional registration, so use this section to demonstrate the technical knowledge and understanding you have gained through your career experience. You should write an extended description of your current role, **or the role that is most relevant to your application**. You should order your employment history in reverse chronological order, starting with your current post.

Engineering experience in current position and past employment.

Start and end dates	Employer and job title	Roles and responsibilities
Include the dates, employer, job title and the roles and responsibilities you had. Do not leave any gaps in your history • Describe your roles and responsibilities carefully and concisely. Do not repeat your job description • Keep it personal. Talk about your own achievements, tasks and actions, not just the team's or project's successes • Use terms such as "I developed, built, tested, commissioned, operated, maintained, supervised, achieved..." • "I achieved X at..." is a more effective statement than "X was achieved at..." • Avoid using jargon or unexplained abbreviations • Remember to use language that can be easily understood by someone who is not a specialist in your field. Communication is an important skill • Do not exceed the space available.		



SECTION 2: Competence and commitment evidence continued

Part B Competence & Commitment evidence

In this section the Reviewers will be looking for evidence that shows you demonstrate the competences required for Engineering Technician registration. It is designed to enable you to describe your role and contribution to specific projects, activities or tasks, so you can clearly show how you have become more competent. You should provide work-based evidence against each statement to ensure your examples cover the overarching competence.

Professional competence is more than learnt knowledge. It is understanding and applying engineering principles correctly, consistently and efficiently. It is reviewing your work, identifying what went well and what to improve. Tell the Reviewers if you act under close supervision, or with minimal direction.

Ensure you address every sub-competence in your answers. If an answer also evidences another sub-competence, cross refer to it: don't assume that the Reviewers will infer it. Supporting evidence is encouraged but must not exceed x12 A4 sides and x3 A3 drawings. Ensure any supporting evidence is clearly cross referenced between your answer and the document itself, and that they are clearly labelled.

The PWI will treat the contents of all reports and appendices as confidential, but please obtain all necessary approvals should you include any Intellectual Property Rights or commercially sensitive information.

Please also refer to the PWI EngTech Competence & Commitment Criteria A-E (Annex A).

A Use engineering knowledge and understanding to apply technical and practical skills.

The Reviewers will be looking for evidence that you have knowledge of the technologies, standards and practices relevant to your area of work, and that you have maintained and applied this knowledge. Aim to provide no more than 700 words.

A1: Review and select appropriate techniques, procedures and methods to undertake engineering tasks. Give an example where you: evaluated potential methods for an engineering task and selected the most appropriate solution, or recognised a technical difficulty and identified an approach to resolve it, or identified an improvement, or interpreted and carried out test procedures.

A2: Use appropriate scientific, technical or engineering principles. Give an example where you: used your technical knowledge to complete a task or resolve a problem, or performed calculations using standard formulae, or analysed performance or test data or compared performance information with published material.

B Contribute to the design, development, manufacture, construction, commissioning, decommissioning, operation or maintenance of products, equipment, processes, systems or services.

Show that you apply engineering knowledge effectively and efficiently to the individual tasks which need to be undertaken in your role. Aim to provide no more than 700 words.

B1: Identify problems and apply appropriate methods to identify causes and achieve satisfactory solutions. Give an example where you: used knowledge to identify a problem or an opportunity for improvement, or investigated a problem to identify the underlying cause, or identified a solution to a problem or an improvement opportunity, or contributed to the design of an item or process.

B2: Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact. Give an example where you: balanced factors in selecting appropriate materials, or evaluated risks and identified precautions, or considered how waste can be minimised, recycled or disposed of safely, or contributed to best practice methods of continuous improvement, or improved the quality of an operation or process.

C Accept and exercise personal responsibility

Explain how you plan and manage your work effectively and efficiently. Illustrate how you consider and identify improvements to maintain quality in your work. Aim to provide no more than 400 words.

C1: Work reliably and effectively without close supervision, to the appropriate codes of practice. Give an example where you: completed challenging tasks successfully within your area of work, or identified issues which fell outside your current knowledge and sought advice, or identified standards and codes of practice relevant to a new task.



C2: Accept responsibility for the work of themselves or others. Give an example where you: checked documents and identified issues, or inspected work by others, or confirmed infrastructure condition prior to hand back, or checked the status of equipment, environment, and facilities before commencing work.

C3: Accept, allocate and supervise technical and other tasks. Give an example where you: provided technical direction for a railway infrastructure task, or ensured the scope of a task was clear before accepting / allocating it, or queried any unclear aspect of a task or provided clarification when sought, or learnt from your own experience or provided feedback when supervising or working with others.

D Use effective communication and interpersonal skills.

Show you can work with others constructively, explain ideas and proposals clearly, and discuss issues objectively and constructively. Aim to provide no more than 400 words.

D1: Communicate effectively with others, at all levels, in English. Give an example where you: contributed to meetings and discussions, or prepared communications, presentations, documents and reports on technical matters, or exchanged information and provided advice to technical and non-technical colleagues, ensuring it was understood.

D2: Work effectively with colleagues, clients, suppliers or the public. Give an example where you: contributed constructively as part of a team, or successfully resolved issues in discussion with others, or persuaded others to accept suggestions or recommendations, or identified, agreed and worked toward collective goals.

D3: Demonstrate personal and social skills and awareness of diversity and inclusion issues. Give an example where you: managed your own emotions, strengths and weaknesses, or dealt with new and changing interpersonal situations confidently and flexibly, or were supportive of the needs and concerns of others especially where related to diversity and equality, or created, maintained and enhanced productive working relationships resolving conflicts. Or show you know protected characteristics and employee duties, or are aware of unconscious bias risk and how to deal with it.

E Demonstrate commitment to the PWI code of professional conduct and safety, recognising obligations to society, the profession and the environment.

This is where you demonstrate your personal and professional commitment to your profession and society. You must provide evidence to show you have adopted the required set of values and behaviours required of PWI EngTech registrants. Ensure you address every sub-competence in your answer E1 – E5.

Show you act in a professional manner in your work and in your dealings with others. EngTechs are expected to set a standard and example to others with regard to professionalism. Aim to provide no more than 700 words, and we recommend half is used in addressing E2.

E1: Understand and comply with relevant codes of conduct. Give an example where you: complied with the PWI Code of Professional Conduct, or worked within relevant legislative and regulatory frameworks including social and employment legislation.

E2: Understand the safety implications of their role and apply safe systems of work. Give an example where you: applied current safety requirements (risk assessments and good practice), or improved safety and worked with colleagues to deliver improvement in safety, or put safety first in your work and identified and challenged unsafe activity, assets or equipment. Or show you know HASAW 1974, CDM regulations, ISO 45001 or company safety policies, or that you understand railway system safety and its management at subsystem interfaces.

E3: Understand the principles of sustainable development and apply them in their work. Describe your understanding of the three pillars of sustainability (planet, people, pence). Give an example where you applied sustainability principles eg used resources efficiently and effectively, or sought multiple views to solve a sustainability challenge, or managed risk to minimise adverse impact to people or planet. Refer to **Annex C** for examples.

E4: Carry out and record the Continuing Professional Development (CPD) necessary to maintain and enhance competence in their own area of practice. Give an example where you: reviewed your own development needs, explained how you plan your personal development, did planned and unplanned CPD activity and made a record of it, and evaluated CPD outcomes against plans, or supported others with their own development, or attended PWI meetings, seminars or technical courses. Describe how you actively seek to keep yourself up to date with developments in your technical area, and how you continue to expand and develop your knowledge and skills.



E5: Understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner. Give an example where you: applied ethical principles (accuracy and rigour, honesty and integrity, leadership and communication, respect for life, law, environment and public good) or as defined by your organisation. Or show you understand ethical issues you may encounter in your role.

CPD evidence: You **must** include the following CPD records:

- A Personal Development Plan which details your objectives for the current/forthcoming year, which should include how you will adhere to our Code of Conduct and support the Institution and profession
- Your Continuing Professional Development records for the past 12 months with your evaluation and reflections of each activity. Note: we expect a minimum of 30 hours effective learning per year.

SECTION 3: Declarations, review and fees

Your declaration

Please read the declaration before signing and dating this section.

Supporter and Sponsor

You need two people – a Supporter and a Sponsor - to read, support and sign your application. Both need to provide their contact details and sign your application. They must read your application thoroughly, to confirm they agree with the information you have provided.

- **Supporter** Your Supporter must be someone who knows you well and regularly works with you, as they will be required to answer three competence-based statements. They could be your line manager or a registered engineer but cannot be related to you. Although preferable, they do not have to be a member of the PWI.
- **Sponsor** Your Sponsor must be a registered engineer with any Engineering Council listed engineering institution at EngTech, IEng or CEng level. Although preferable, they do not have to be a member of the PWI. Your Sponsor can also be your Supporter but cannot be related to you.

Your Sponsor needs to provide a short statement in support of your application of how, in their professional judgement, you meet each competence A-E. They confirm they believe you are suitable for consideration for registration as an Engineering Technician Member of the Permanent Way Institution.

Review

Once your application has been processed by the PWI, two PWI trained registered engineers will independently review it. The Reviewers will make their judgements based solely on the information provided to them. They may want some further information from you. On rare occasions you may be required to attend a professional review interview. Should this be necessary, we will contact you with possible dates and further advice. Providing you are deemed to meet the required standard you will be recommended to our Membership Committee for registration with the Engineering Council at Engineering Technician level.

If you are successful, you will receive a letter and a certificate from the Institution's Chief Executive confirming your achievement. Your details will be forwarded to the Engineering Council for Registration. Your name will appear on the PWI website, our social media channels and in the next PWI Journal.

How you will be assessed

You will be assessed against every sub-competence and one of the following levels will be assigned according to the Reviewer's judgement. For E1 and E4 Reviewers will answer only Yes or No

No Knowledge	0	Presents insufficient understanding of the activity
Appreciation	1	Presents a basic understanding of the activity
Knowledge	2	Presents an understanding of the activity and its application
Experience	3	Presents an ability to apply learned knowledge and skills to perform operations correctly according to specified standards
Know-how	4	Presents an ability to apply learned knowledge and skills to perform operations correctly according to specified standards, consistently and efficiently, and demonstrate reviews of completed work

Every applicant must demonstrate their ability to apply safe systems of work and understand the safety implications of their role.

Engineering Technician Application Guidance

Declarations, review and fees



To be successful you will need:

• a total score not less than 30	• a mean score in each competency A-E not less than 2	• a score not less than 3 in E2	• no 0 or No answers
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Candidates who do not satisfy the competence requirements will not be recommended for registration.

Fees

Application Fee	EngTech	IEng	CEng
New Registrant*	£60	£225	£225
Additional Membership	FREE	£90	£90
2025 Annual Fee (once you are professionally registered through the PWI)			
Annual EngC Registration Fee**	£23.28	£40.60	£47.84
Professionally Registered Member	£125	£185	£205
Professionally Registered Fellow	£170	£240	£260

* Includes Engineering Council Registration Entry Fee

** The annual Engineering Council Registration Fee will be collected at the same time as your PWI subscription and will be paid to the Engineering Council on your behalf.

We are unable to process your application until the fee has been received. All fees are non refundable. We expect any missing documentation or resubmissions to be received within six months of feedback. Failure to do so means the application will be treated as withdrawn and the fee retained unless extenuating circumstances exist.

BACS		Cheque enclosed		Card payment
Account Name	Permanent Way Institution	Payable to	Permanent Way Institution	Pay online through our shop
Account No	50712051	Send to	PWI Central, PO Box 12890, Brentwood, CM14 9RY	www.thepwi.org/webshop/
Sort Code	20 07 89	Please ensure your PWI membership number, full name and level applying for are written clearly on the reverse of the cheque.		Or
Reference	Your membership number and name			Telephone the Secretary on +44(0)300 373 6000 (option 1)

APPENDICIES

Annex A: EngTech Competence & Commitment Criteria

Annex B: PWI Code of Professional Conduct

Annex C: PWI Sustainability Guidance

COMPETENCE & COMMITMENT CRITERIA



The Engineering Technician (EngTech) Standard

The PWI competence and commitment criteria fully comply with UK-SPEC. Recognising the risk inherent in railway transport, the PWI requires an enhanced focus on safety and candidates must demonstrate their absolute commitment to the application of safe systems of work and understand the safety implications of their role.

Engineering Technicians apply proven techniques and procedures to the solution of practical engineering problems in Rail Infrastructure.

A Knowledge and Understanding		
Engineering Technicians shall use engineering knowledge and understanding to apply technical and practical skills. This competence is about having knowledge of the technologies, standards and practices relevant to the applicant's area of work and having evidence of maintaining and applying this knowledge.		
The applicant shall demonstrate they:		Examples of evidence may include:
A1	Review and select appropriate techniques, procedures and methods to undertake engineering tasks	- Evaluating potential methods of carrying out an engineering task and selecting the most appropriate solution - Recognising a technical difficulty and then identifying an approach to resolve it - Identifying an improvement in a technique, procedure, process or method - Interpreting and carrying out test procedures
A2	Use appropriate scientific, technical or engineering principles	- Using your technical knowledge to complete a task or resolve a problem - Performing calculations using standard formulae - Analysing performance or test data or comparing performance information with published material

B Design, development and solving engineering problems		
Engineering Technicians shall contribute to the design, development, manufacture, construction, commissioning, decommissioning, operation or maintenance of products, equipment, processes, systems or services. This competence is about the ability to apply engineering knowledge effectively and efficiently to the individual tasks which need to be undertaken in the applicant's role.		
The applicant shall demonstrate they:		Examples of evidence may include:
B1	Identify problems and apply appropriate methods to identify causes and achieve satisfactory solutions	- Using knowledge to identify a problem or an opportunity for improvement - Investigating a problem to identify the underlying cause - Identifying a solution to a problem or an improvement opportunity - Contributing to the design of an item or process
B2	Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact	- Balancing these factors in selecting appropriate materials - Identifying precautions as a result of evaluating risks and other factors - Considering how waste can be minimised, recycled or disposed of safely if recycling is not possible - Contributing to best practice methods of continuous improvement - Improving the quality of an operation or process

COMPETENCE & COMMITMENT CRITERIA

The Engineering Technician (EngTech) Standard



C Responsibility, management and leadership

Engineering Technicians shall accept and exercise personal responsibility.

This competence is about the ability to plan and manage the applicant's own work effectively and efficiently. It is also about the ability to consider and identify improvements to maintain quality in their work.

The applicant shall demonstrate they:		Examples of evidence may include:
C1	Work reliably and effectively without close supervision, to the appropriate codes of practice	• Completing challenging tasks successfully within your area of work • Identifying issues which fall outside of your current knowledge and seeking advice • Identifying standards and codes of practice relevant to a new task
C2	Accept responsibility for the work of themselves or others	• Fully understanding drawings, permits to work, instructions or other similar documents after appropriate checking, and identifying issues • Inspecting work carried out by others • Confirming infrastructure condition prior to handing back into service • Checking the status of equipment, the work environment and facilities and taking appropriate actions before commencing work
C3	Accept, allocate and supervise technical and other tasks	• Providing technical direction of a rail infrastructure task • Ensuring the scope of a task is clear before accepting and/or allocating it to others • Querying any aspect of a task which is not clear and/or providing an explanation if a query is raised by others • Learning from your own experience and/or providing constructive feedback when supervising or working with others

COMPETENCE & COMMITMENT CRITERIA

The Engineering Technician (EngTech) Standard



D Communication and interpersonal skills

Engineering Technicians shall use effective communication and interpersonal skills.

This competence is about the ability to work with others constructively, to explain ideas and proposals clearly and to discuss issues objectively and constructively.

The applicant shall demonstrate they:		Examples of evidence may include:
D1	Communicate effectively with others, at all levels, in English	• Contributing to meetings and discussions • Preparing communications, presentations, documents and reports on technical matters • Exchanging information and providing advice to technical and non-technical colleagues, ensuring it was understood
D2	Work effectively with colleagues, clients, suppliers or the public	• Contributing constructively as part of a team • Successfully resolving issues in discussions with team members, suppliers, clients and/or others • Persuading others to accept suggestions or recommendations • Identifying, agreeing and working towards collective goals
D3	Demonstrate personal and social skills and awareness of diversity and inclusion issues	• Knowing and managing own emotions, strengths and weaknesses • Being confident and flexible in dealing with new and changing interpersonal situations • Knowing protected characteristics and employee duties under the Equality Act 2010 • Having an awareness of the risk of unconscious bias and how this can be dealt with • Creating, maintaining and enhancing productive working relationships, and resolving conflicts • Being supportive of the needs and concerns of others, especially where this relates to diversity and inclusion

COMPETENCE & COMMITMENT CRITERIA

The Engineering Technician (EngTech) Standard



E Personal and professional commitment		
Engineering Technicians shall demonstrate commitment to an appropriate code of professional conduct, recognising obligations to society, the profession and the environment. This competence is about ensuring that the applicant is acting in a professional manner in their work and in their dealings with others. An Engineering Technician should set a standard and example to others with regard to professionalism.		
This shall include the ability to:		Examples of evidence may include:
E1	Understand and comply with relevant codes of conduct	• Demonstrating compliance with the PWI's Code of Professional Conduct • Working within all relevant legislative and regulatory frameworks, including social and employment legislation
E2	Understand the safety implications of their role and apply safe systems of work	• Providing evidence of applying current safety requirements, such as risk assessment and other examples of good practice you adopt in your work • Having a sound knowledge of health and safety legislation in your role, for example: HASAW 1974, CDM regulations, ISO 45001 and company safety policies • Understanding railway system safety and its management, particularly at subsystem interfaces • Improving safety and working with colleagues to deliver improvement in safety • Putting safety first during the design, construction, operation or maintenance of equipment and assets and identifying and challenging unsafe activities, assets or equipment
E3	Understand the principles of sustainable development and apply them in their work	• Recognising how sustainability principles can be applied in your day-to-day work in the rail infrastructure industry – Recognise the challenges of decarbonisation and climate change adaptation in contributing to building a sustainable society, present and future – Apply professional and responsible judgement and take a leadership role – Do more than just comply with legislation and codes – Use resources efficiently and effectively – Seek multiple views to solve sustainability challenges – Manage risk to minimise adverse impact to people or the environment • Identifying actions that you can and have taken to improve sustainability
E4	Carry out and record the Continuing Professional Development (CPD) necessary to maintain and enhance competence in their own area of practice	• Undertaking reviews of your own development needs • Explaining how you plan your personal development • Carrying out and recording planned and unplanned CPD activities and maintaining evidence of competence development • Evaluating CPD outcomes against any plans made • Supporting others with their own development • Attending PWI meetings, seminars or technical courses
E5	Understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner	<i>Examples could be drawn from safety, diversity and inclusion, or sustainability</i> • Understanding the ethical issues that you may encounter in your role • Giving an example of where you have applied ethical principles – Honesty and integrity – Respect for life, law, the environment and public good – Accuracy and rigour – Leadership and communication • Giving an example of where you have applied or upheld ethical principles as defined by your organisation or company



THE PWI

The Institution for Rail
Infrastructure Engineering

PWI CODE OF PROFESSIONAL CONDUCT

Version 5.3

September 2023



1 Introduction

This Code of Professional Conduct applies to all members of the Institution. It is based on and includes the four elements of the **Statement of Ethical Principles to Guide Engineering Practice and Behaviour**, endorsed by all UK Professional Engineering Institutions and set out below. All persons engaged in engineering at any level, including apprentices and students, should think and work in accordance with these ethical principles.

1.1 Honesty and integrity

Engineering professionals have a duty to uphold the highest standards of professional conduct including openness, fairness, honesty, and integrity. They should:

- act in a reliable and trustworthy manner
- be alert to the ways in which their work and behaviour might affect others and respect the privacy, rights and reputations of other parties and individuals
- respect confidentiality
- declare conflicts of interest
- avoid deception and take steps to prevent or report corrupt practices or professional misconduct
- reject bribery and improper influence.

1.2 Respect for life, law, the environment and public good

Engineering professionals have a duty to obey all applicable laws and regulations and give due weight to facts, published standards and guidance, and the wider public interest. They should:

- hold paramount the health and safety of others and draw attention to hazards
- ensure their work is lawful and justified
- recognise the importance of physical and cyber security and data protection
- respect and protect personal information and intellectual property
- protect, and where possible improve, the quality of built and natural environments
- maximise the public good and minimise both actual and potential adverse effects for their own and succeeding generations
- take due account of the limited availability of natural resources
- uphold the reputation and standing of the profession.

1.3 Accuracy and rigor

Engineering professionals have a duty to acquire and use wisely the understanding, knowledge and skills needed to perform their role. They should:

- always act with care
- perform services only in areas in which they are currently competent or under competent supervision
- keep their knowledge and skills up to date
- assist the development of engineering knowledge and skills in others
- present and review theory, evidence and interpretation honestly, accurately, objectively and without bias, while respecting reasoned alternative views
- identify, evaluate, quantify, mitigate and manage risks
- not knowingly mislead or allow others to be misled.



1.4 Leadership and communication

Engineering professionals have a duty to abide by and promote high standards of leadership and communication. They should:

- be aware of the issues that engineering and technology raise for society, and listen to the aspirations and concerns of others
- promote equality, diversity, and inclusion
- promote public awareness and understanding of the impact and benefits of engineering achievements
- be objective and truthful in any statement made in their professional capacity
- challenge statements or policies that cause them professional concern.

Further to these principles, more detailed guidance for members on how to meet the standard of professional conduct required by the Institution when balancing the potentially conflicting interests of employers, society and environment is given below.

2 Professional Conduct

2.1 Institution rules

Members shall comply with requirements of the Institution's governing documents and supporting rules and regulations.

2.2 Promotion of engineering

Members shall actively promote public awareness and understanding of the impact and benefits of engineering and technology.

2.3 Skill, care, and diligence

Members have an overriding responsibility for the public good, including the health and wellbeing of present and future generations. Members shall act with due skill, care and diligence to the best of their ability and with proper regard for professional standards. Members shall only undertake tasks and responsibilities they are competent to discharge and will disclose relevant limitations of competence. Members shall also take all reasonable steps to confirm that those working under their authority are both suitably equipped and competent to carry out tasks assigned to them.

2.4 Responsibility

Members shall discharge their responsibilities and duties with integrity and fairness. Members shall accept personal responsibility for all work done by themselves and under their supervision or direction.

2.5 Safety

Members shall take care to prevent avoidable danger and risk to the health, safety, and well-being of current and future generations, in their work and the products of their work, and that of those working under their supervision or direction.

2.6 Sustainability

Members shall act in accordance with the sustainability principle of meeting the needs of the present without compromising the ability of future generations to meet their own needs.

2.7 Environment



Members shall act in accordance with environmental good practice to prevent avoidable adverse impact on the environment.

2.8 Security

Members shall adopt a security-minded approach in their professional and personal life, and particularly towards communications, understanding, complying with and seeking to improve systems for security governance.

2.9 Equality, Diversity, and Inclusion

Members shall treat all persons fairly and with consideration and respect, seeking to influence others by the high standards they set. Members shall uphold the dignity and reputation of our profession, including in their relationships with the Institution, its employees, and their fellow members.

2.10 Professional advice

Members who are called upon to give advice or an opinion in their professional capacity shall base such advice and opinion on the best available objective knowledge and information. Members whose professional advice is not accepted shall take all reasonable steps to make the person overruling or neglecting that advice aware of any danger or loss which may ensue and, if appropriate, inform that person's employers of the potential risks involved.

2.11 Concerns

Members shall raise any concern about a danger, inadequately quantified or managed risk, or malpractice or wrongdoing, either within the workplace or externally. Any such concern shall be reported to their employer or manager. If this does not address the concern, members should make use of existing company and industry sector reporting systems, eg Worksafe procedures and CIRAS (*Confidential Incident Reporting and Analysis Service*): see Appendix below.

2.12 Conflict or potential conflict of interest

Members will conduct themselves in accordance with the principle that in any conflict between a member's personal interest and fair and honest dealing with other members of the community, their duty to the community shall prevail. Members shall inform their employer in writing on any conflict or potential conflict that may exist or arise between their personal interests and the interests of their employer.

2.13 Confidentiality

Members will observe the proper duties of confidentiality owed to appropriate parties and shall not disclose any confidential information without proper authority.

2.14 Insurance

Members will assess relevant liability and, where appropriate, hold professional indemnity and other relevant insurances.

2.15 Bribery and corruption

Members shall reject bribery and all forms of corrupt behaviour and will make positive efforts to ensure that others do likewise.

2.16 Advertising

Members shall not advertise or write articles for publication in any manner that is derogatory either to the Institution or to the dignity of the profession. Nor shall they authorise any such article to be written or published by others.



2.17 Publicity

Members shall not make any public statement in their professional capacity without ensuring they are competent to make such a statement.

2.18 Informing the Institution

Members shall advise the Institution:

- if convicted of a criminal offence
- upon becoming bankrupt or disqualified as a Company Director
- if their membership of another professional body is terminated as a result of disciplinary action
- of any significant breach of this Code by another member.

3 Developing and maintaining professional competence

- 3.1 Members are required to maintain and develop their professional competence (knowledge, skills, and behaviours) and support the development of others through continuing professional development (CPD). This helps to demonstrate members' continued competence and professionalism to the wider engineering community and to the public.
- 3.2 Professionally registered engineers must complete and record CPD on an annual basis to abide by the CPD Code for Registrants as detailed in UK-SPEC.
- 3.3 Each year, the Institution will randomly select a proportion of its members and ask them to submit a record of their CPD for the past 12 months, including an element of reflection on each activity undertaken. There is no prescribed format in which returns should be made.
- 3.4 Following submission, members will receive feedback intended to enhance their professional development. Where submissions do not show evidence of appropriate CPD or reflection, support will be offered. The Institution's Registration Policies and Procedures Manual allows for this process to take up to five months from the initial request.
- 3.5 Submission on request is mandatory for those members who are professionally registered through the Institution. A registrant who persistently does not respond to or engage with requests to submit CPD records will be removed from the Engineering Council's Register of Engineers for non-compliance. The Institution will provide the Engineering Council with a list of members removed from the Register for non-compliance.

4 Disciplinary action

4.1 Failure to observe this Code

If a member fails to observe this Code of Professional Conduct, they may become subject to disciplinary action under the PWI Disciplinary Procedures.

4.2 Disciplinary action by another professional body

If a member has their membership of another professional body terminated as a result of disciplinary action, they may become subject to disciplinary action under the PWI Disciplinary Procedures.



Appendix

Confidential Safety Reporting, and CIRAS

Man-made disasters^[1], including the 2017 Grenfell Tower fire in London and the 2018 and 2019 crashes of two 737 Max aircraft, have again highlighted the dangers that arise when those working in the engineering sector don't act in accordance with good practice and their professional duty. Railways, like many businesses, are subject to commercial and other business priorities which can occasionally lead to individuals feeling pressured to do what is convenient or cheap rather than what is right, or perhaps to 'turning a blind eye' to shortcuts or potentially dangerous decisions taken by others.

Reputable companies actively encourage the use of robust **Worksafe** arrangements, allowing employees and others working with them to formally flag up and resolve such situations.

But what to do when you honestly feel that speaking out may lead to aggression, damage your livelihood, or limit your career prospects - in short, where there are strong informal incentives not to use formal company reporting procedures?

The railway industry has long recognised the danger inherent in such situations and in 1996 established the independent *Confidential Incident Reporting and Analysis Service (CIRAS)*. **CIRAS** raises safety concerns at the most senior levels within relevant companies, whilst maintaining reporters' confidentiality. Maintenance of confidentiality is the service's primary guiding principle.

So, if you have a health, safety, or wellbeing concern about your workplace or another site you have visited or have knowledge of, you can contact CIRAS confidentially at:

- www.ciras.org.uk/Raise-a-concern
- UK: 0800 4 101 101 or ROI: 1800 239 239
- Freepost CIRAS.

Speaking out through Worksafe or CIRAS is consistent with the PWI's Code of Professional Conduct and with an individual's responsibilities under the UK Health and Safety at Work Act 1974.

For more details of the CIRAS service go to: www.ciras.org.uk/About-us

For more details of **Worksafe** arrangements, search for 'Worksafe' on your company's intranet.

[1] Man-made disasters are those which involve an element of human intent, negligence, or error involving a failure of a man-made system, as opposed to those natural disasters which result solely from natural hazards.



Sustainability Guidance: Competence E3

Annex C

Theme	Design	Maintenance/Construction/Projects	Asset Management	Academia	Supply chain	Overview	EngTech	IEng	CEng
General	x	x	x	x	x	Attend conferences / lectures	I attended a conference on Sustainable Infrastructure in Design and Maintenance. This is what I took away...	I contributed to / attended a conference on Sustainable Infrastructure in Design and Maintenance.	I presented at a conference on Sustainable Infrastructure in Design and Maintenance. My presentation focused on my research / project....
General	x	x	x	x	x	Background reading / journals	As part of my CPD, I have read the Engineering Council's 'Guidance on Sustainability / United Nations Sustainable Development Goals. Here is how I could contribute...	As part of my CPD, I have read the Engineering Council's 'Guidance on Sustainability / United Nations Sustainable Development Goals. Here is how I could contribute...	As part of my CPD, I have read the Engineering Council's 'Guidance on Sustainability / United Nations Sustainable Development Goals. Here is how I could contribute...
General	x	x	x	x	x	Understanding of company sustainability policies / strategies	I read my employer's Weather Resilience and Climate Change Adaptation Plan. These are the key challenges... I have effectively embedded these requirements into my work by...	I read my employer's Weather Resilience and Climate Change Adaptation Plan... I am ensuring that the requirements of these plans are effectively understood by staff in my area and assuring the outputs are delivered...	
General	x	x	x	x	x	Recognition of the role railways play within the overall sustainability challenge ie freight growth / increasing passenger modal share	I attended a conference which discussed the importance of freight growth across the network. I see the challenges here to be... and I am doing X to improve this...	I attended a conference which discussed the importance of freight growth across the network. I see the challenges here to be... and I am doing X to improve this...	I attended a conference which discussed the importance of freight growth across the network. I see the challenges here to be... and I am doing X to improve this...
General	x	x	x	x	x	Sustainability working groups	I attended a working group to understand how we could reduce our carbon footprint locally... My thoughts are that I could do this... and this is what I did...	I attended a working group to understand how we could reduce our carbon footprint locally... My thoughts are that I can do this... and I am doing this to ensure that I deliver on it.	I lead a working group to understand how we could reduce our carbon footprint locally... As a group I identified this... and I am instigating these actions and targets to ensure I deliver.
General		x	x		x	Managing contaminated land - fuel spillages / fly tipping / invasive species	I identified a fuel spillage or the risk of spillage and managed it through this process... The lesson learnt here was... and these steps are taken forward...	I identified an increasing trend in fuel spillages. I undertook a review and identified these issues... I identified these actions and the output has been...	I identified an increasing trend in fuel spillages. I undertook a review and identified these issues... I identified these actions and the output has been...
General		x	x		x	Efficient planning of resources	I identified an area which required continual maintenance. I challenged whether we were effectively addressing the issue and whether a different approach may be needed (ie tamping no longer working, switch to stoneblowing). Through this, I reduced the need to attend site and improved the asset.	I identified a number of areas which required continual maintenance. I formulated an action plan to effectively address the issue.	I undertook a detailed review in a number of areas which required continual maintenance. I formulated an action plan to effectively address the issue. Link to whole-life-cost and specification of projects... I tried a different approach to address this issue...
General	x	x	x	x	x	Understanding requirements of relevant permits / licences	As part of my project, I am aware of... These are needed because...	As part of my project, I applied for... These are needed because...	I ensure the following licences / permits are in place in my project.
General	x	x	x	x	x	Identification of environmental risks ie hazard records	Before going on site, I checked the hazard record and identified X. I ensured that all staff were briefed on this hazard...	As part of the risk assessment process, X hazard was identified. This posed a risk due to... I took these actions to mitigate and control this hazard	I led the risk assessment process which identified these environmental risks... I managed the closure of these hazards by...
General		x	x	x	x	Managing impacts of dust, odour and lighting	I noticed a lot of dust during unloading of ballast. I stopped the activity and escalated the issue.	I identified a key risk around dust during project specification. I contributed to a risk assessment and took X actions to ensure that this was effectively mitigated. I ensured the controls were appropriate on site.	I identified a key risk around dust during project specification. I contributed to a risk assessment and took X actions to ensure that this was effectively mitigated. I ensured the controls were appropriate on site.
General	x	x	x	x	x	Developed / arranged / undertook sustainability monitoring audits	During an audit I identified... I took these immediate steps to address any issues and reported accordingly.	I undertook an audit and found the following findings... I took these immediate steps to address any issues and reported accordingly.	I initiated an audit and reviewed the themes following any improvement plan and ensured these were implemented.
General	x		x	x		Compiled relevant sustainability / environmental info within H&S file	As part of the project, I identified X sustainability issue and raised it. When it came to project handbook, I ensured this was added to the H&S file...	As part of the project, I identified X sustainability issue and addressed the issue. When it came to project handbook, I ensured this was added to the H&S file...	As part of the project, I identified X sustainability issue, addressed the issue, understood the root cause and fed back to others as part of lessons learned. When it came to project handbook, I ensured this was added to the H&S file...
General	x	x	x	x	x	Utilised renewable energy power / energy efficient technologies	I utilised solar powered lighting on my site... This is beneficial to the wider sustainability goals as...	I specified solar powered lighting to be used on each of our sites. I made X arrangements to ensure this was achievable and worked with teams to ensure it was effectively embedded. I identified these potential issues... And took these actions to	I specified solar powered lighting to be used on each of our sites. I made X arrangements to ensure this was achievable and worked with teams to ensure it was effectively embedded. I identified these potential issues... And took these actions to
General	x	x	x	x	x	Setting sustainability targets / objectives (ie carbon reduction) Could be a personal target / objective?	I am aware of my own carbon footprint and the carbon footprint of my project.	I understood my own carbon footprint and the carbon footprint of my project. In both areas I have set a reduced target.	I understood my own carbon footprint and the carbon footprint of my project. In both areas I have set a reduced target.
Decarbonisation	x		x	x		Undertaking sustainability-driven risk assessment	As part of the design, I completed a preliminary risk assessment for contaminated land. As part of this I did... and found... This informed our decision making by...	As part of the design, I completed / reviewed a preliminary risk assessment for contaminated land. As part of this I did... and found... I took these actions to ensure all risks were effectively controlled.	As part of the design, I reviewed and accepted the environmental risk assessments. I made these challenges and identified...
Decarbonisation		x	x		x	Research and implementation of low-carbon alternatives (install and design) ie composite sleepers	I implemented sustainable products / or processes in my area as a replacement for traditional materials / or methods and worked with the team to solve issues. These are beneficial because...	I implemented sustainable products / or processes in my area as a replacement for traditional materials / or methods. I identified these benefits / issues... I resolved these by...	I specified more sustainable products / or processes in my area as a replacement for traditional materials / or methods. I identified these requirements... these benefits / issues... and took these actions to ensure effective introduction. I ensured staff were competent and briefed...
Decarbonisation	x		x	x		Undertaking option selection, considering whole-life-cost / sustainability	As part of the design process, I contributed towards the option selection, working with the client and other relevant stakeholders. I identified...	As part of the design process, I undertook an option selection, working with the client and other relevant stakeholders. I identified... and proposed these options based on this...	As part of the design, I assessed a selection of options. I identified these risks / opportunities... I decided to choose X option, as these provided best long term sustainability...
Decarbonisation	x	x	x	x	x	Recycle and re-use of materials	Whilst completing a renewal, I noticed that X was still serviceable. I removed the parts and ensured it was taken back to the depot for re-use. The benefit here is...	Whilst scoping a renewal, I assessed that X was serviceable. I specified and made arrangements for these materials to be recovered. The benefits here are...	Whilst setting my policy, I set the requirement for materials to be recycled and re-used where possible. The challenges to this are... and I did this to remove any blockers. I assure this policy is being delivered by... and it has these benefits...
Environmental		x	x	x	x	Reporting of environmental 'near misses'	I reported a near miss on site... The risk here was...	I identified a near miss on site... The risk here was... I followed this up by liaising with senior management and creating a notice for distributing around my team... Consequently, we have had no further issues.	I led an investigation into an environmental near miss on site. As part of this investigation I did... I identified a number of actions that addressed the issue by... The output of this was...
Environmental		x	x		x	Identifying areas of wastage	I noted that the team were taking too many X to site. I raised this and worked to reduce this in the future to lower material wastage.	I noted that the team were taking too many X to site. I investigated and worked to reduce this in the future to lower material wastage.	Noting reports of wastage, I undertook a detailed review of wastage within my area. I identified these issues and took these actions to reduce wastage. I assure this on an ongoing basis by...
Environmental		x	x	x	x	Managing the impact of noise and vibration	I identified an area of significant noise within a neighbourhood area, which would disturb the local community... I raised this / managed this by...	I identified an area of significant noise within a neighbourhood area, which would disturb the local community... I raised this / managed this by...	I identified an area of significant noise within a neighbourhood area, which would disturb the local community... I investigated and took these actions...
Environmental		x	x		x	Completed site briefings	When completing my site briefing, I highlighted a local issue of an invasive species and the risk they posed... This is important because...	Whilst conducting my risk assessments / project reviews / method statements, I identified a local issue of an invasive species. I took X steps to mitigate this risk and ensured the site briefings appropriately covered this.	I identified the need for X briefings and ensured they took place.
Environmental	x	x	x	x	x	Instigating / managing / calculating relevant metrics ie biodiversity, carbon reduction	I was set targets to achieve an improvement in X area. To do this, I sought advice and did...	I reviewed the metrics for achieving our environmental targets. I identified areas where they were not being achieved and sought to address them. I identified positive areas and sought to understand good practice.	I developed metrics for ensuring that our environmental goals were achieved. I undertook X process, which identified the risks / opportunities and a strategy for achieving this.
Environmental	x	x		x		Systems thinking for weather resilience / climate change (ie drainage catchment areas)	I identified an area of continual flooding. I raised this and working with the drainage team, discovered the outfall was blocked.	I identified an area of continual flooding. I raised this and working with the drainage team, discovered the outfall was blocked.	I instigated and built drainage asset management plans for my local area. These identified the complete system and any appropriate interfaces, and any special arrangements required. I ensured these were effectively briefed and utilised by inspectors.
Environmental	x	x	x	x		Working with third-party asset owners / land-owners to identify risks	I was required to liaise with a third party land owner, to address their tree that was in danger of falling onto the railway. I did X and ensured that this risk was mitigated.	I received a report of a third party tree that was in-danger of falling onto railway land. I assessed the risk and worked with the landowner to ensure it was safely removed and the landowner was satisfied with the outcome.	I set out a strategy for conducting drainage / lineside examinations and management of third-party assets.
Environmental	x	x	x	x		Undertaking community engagement	As part of my scheme, I engaged with local accessibility groups to understand their concerns... I took part in local consultations and delivered these actions...	As part of my scheme, I engaged with local accessibility groups to understand their concerns... I took part in local consultations and delivered these actions...	I managed the community engagement for a project. These identified key concerns by the community, which I addressed by...
Environmental	x	x	x	x		Understanding relevant Environmental Standards	I'm aware of this standard relating to the Environment...	I have applied this standard... I understand how these items are applied... and the reasons why...	I have applied this standard... I understand how these items are applied... and the reasons why...
Weather Resilience & Climate Change	x		x	x	x	Contributing to a weather resilience scheme	I completed a drainage scheme to improve weather resilience. I did this... and this will have these benefits...	Whilst undertaking a scheme, I took a detailed view of the weather resilience. I identified that there were these issues... and I took these actions...	I specified this weather resilience scheme. I decided this was required due to... and had to achieve these requirements... The benefit of this scheme's delivery has been...

Weather Resilience & Climate Change		x		x			Identification and addressing of local issues ie earthworks shrink / extensive vegetation growth	I noted an area of potential ground movement and raised it accordingly. This was following a spell of hot weather / heavy rain, so could be due to...	I noted an area of potential ground movement and raised it accordingly. I worked with my Earthworks colleagues to understand underlying issues, which were... and remediate by...	I noted an area of potential ground movement and raised it accordingly. I worked with my Earthworks colleagues to understand underlying issues, which were... and remediate by ...
Weather Resilience & Climate Change	x	x		x	x		Identify potential weather event impacts on assets and area	I identified a potential risk area before the hot weather period. I addressed this by...	Following a period of intense hot weather, I undertook a review to determine the impact in my area. I identified these issues... and made these recommendations to address...	In preparation for a particularly hot weather period, I undertook a review of my asset area. I identified these risks and took these proactive actions... (implementation of new tech / remote temperature / slope detection etc).
Weather Resilience & Climate Change	x	x	x	x	x	x	Management of extreme heat / strong winds / lightning / heavy rainfall / flooding / snow	I undertook a weather resilience activity in preparation for extreme weather (stressing?). This is critical because...	I attended site following a significant flooding incident. I took X actions to mitigate the immediate impact and allow services to continue. I identified X as an underlying cause, and did X to mitigate future risk.	I undertook a detailed review of the management of assets during extreme weather. I identified these key areas of risk / opportunity. I liaised with other areas of expertise and briefed / ensured competence of staff delivering requirements.
Whole Life Cost	x			x	x	x	Knowledge of Carbon Footprint	I utilised the RSSB carbon tool to understand the carbon impact of the design. This contributed to the overall design by...	I utilised the RSSB carbon tool to understand the carbon impact of the design. I undertook an option selection to ensure effective understanding of the balance between carbon, cost, efficiency etc...	I specified the use of the RSSB carbon tool to contribute to the option selection process. I considered the outputs and made the decision to do... I justified this decision by understanding the benefits, risks etc.