Non-Destructive Technologies Technician – **Assessment Plan**

Apprenticeships

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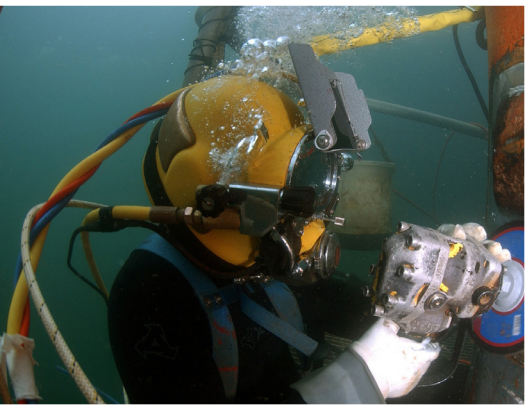




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THE BRITISH INSTITUTE OF NON-DESTRUCTIVE TESTING

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Introduction and Overview

This document explains the requirements for the end-point assessment (EPA) for the Non-Destructive Technologies Technician apprenticeship. This apprenticeship has an integrated qualification, which means that both the qualification and apprenticeship need to be completed, passed and awarded during the same period.

The awarding body (AB) is accountable for the integrated assessment method. The End-Point Assessment Organisation (EPAO) must take responsibility for all other assessment methods in the EPA. EPAOs and ABs must work collaboratively to manage the delivery of the EPA.

Non-Destructive Technologies Technician apprentices, their employers, training providers and other interested parties should read this document.

A full-time Non-Destructive Technologies Technician apprentice typically spends 24 months on-programme. The apprentice must spend at least 12 months on-programme and complete the required amount of off-the-job training in line with the apprenticeship funding rules.

The EPA should be completed within an EPA period lasting typically two months.

The apprentice must complete their training and meet the gateway requirements before starting their EPA. The EPA will assess occupational competence.

An approved EPAO must conduct the EPA for this apprenticeship. Employers must work with the training provider to select an approved EPAO from the Apprenticeship Providers and Assessment Register (APAR).

This EPA has two assessment methods.

The grades available for each assessment method are below.

Assessment method 1 – Interview underpinned by a portfolio of evidence:

- Fail
- Pass
- Distinction.

Assessment method 2 – Level 2 complex non-destructive technologies qualification:

- Fail
- Pass.

The result from each assessment method is combined to decide the overall apprenticeship grade.

The following grades are available for the apprenticeship:

- Fail
- Pass
- Distinction.

EPA Summary

On-programme (typically 24 months)	The apprentice must: ■ Complete training to develop the apprenticeship standard's knowledge, skills and behaviours (KSBs) to the standards of proficiency for a Non-Destructive Technologies Technician ■ If required, complete training towards English and mathematics qualifications in line with the apprenticeship funding rules ■ Compile a portfolio of evidence ■ Achieve two Level 2 non-complex non-destructive technologies qualifications ■ Complete training towards one Level 2 complex non-destructive technologies qualification.
End-point assessment gateway	The apprentice's employer must be content that the apprentice is occupationally competent. The apprentice must: ■ Confirm they are ready to take the EPA ■ Have met the KSBs outlined in the apprenticeship standard ■ Have achieved two Level 2 non-complex non-destructive technologies qualifications: ■ Level 2 NDT dye penetrant testing (non-complex) ■ Level 2 NDT in magnetic particle inspection testing (non-complex) ■ Level 2 NDT visual testing (non-complex) ■ Level 2 NDT welding inspector ■ Level 2 CM lubrication management and analysis (field) (non-complex) ■ Level 2 CM lubrication management and analysis (laboratory) (non-complex). ■ If required, have achieved English and mathematics qualifications in line with the funding rules ■ Submit a portfolio of evidence for the interview underpinned by a portfolio of evidence. Gateway evidence must be submitted to the EPAO, along with any organisation-specific policies/ procedures requested by the EPAO.
End-point assessment (typically two months)	**The grades available for each assessment method are below:** Interview underpinned by a portfolio of evidence: ■ Fail ■ Pass ■ Distinction. Level 2 complex non-destructive technologies qualification: ■ Fail ■ Pass. **The overall EPA and apprenticeship can be graded:** ■ Fail ■ Pass ■ Distinction.
Professional recognition	This apprenticeship aligns with: ■ Engineering Council for Engineering Technician (EngTech).
Resits and retakes	The details for resits and retakes are below: ■ Retake and resit grade cap: pass ■ Resit timeframe: typically two months ■ Retake timeframe: typically four months.

Duration of End-Point Assessment Period

The EPA is taken in the EPA period. The EPA period starts when the EPAO confirms that the gateway requirements have been met and typically lasts two months. The EPAO should confirm that the gateway requirements have been met and start the EPA as quickly as possible.

EPA Gateway

The apprentice's employer must be content that the apprentice is occupationally competent. That is, they are deemed to be working at or above the level set out in the apprenticeship standard and ready to undertake the EPA. The employer may take advice from the apprentice's training provider, but the employer must make the decision. The apprentice will then enter the gateway. The apprentice must meet the gateway requirements before starting their EPA. They must:

- Confirm they are ready to take the EPA
- If required, have achieved English and mathematics qualifications in line with the apprenticeship funding rules
- Have passed two of the following Level 2 non-complex non-destructive technologies qualifications:
  - Level 2 NDT dye penetrant testing (non-complex)
  - Level 2 NDT magnetic particle inspection (non-complex)
  - Level 2 NDT visual testing (non-complex)
  - Level 2 NDT welding inspector
  - Level 2 CM lubrication management and analysis (field) (non-complex)
  - Level 2 CM lubrication management and analysis (laboratory) (non-complex).
- Submit a portfolio of evidence for the interview underpinned by a portfolio of evidence.

Portfolio of Evidence Requirements

The apprentice must compile a portfolio of evidence during the on-programme period of the apprenticeship. It should only contain evidence related to the KSBs that will be assessed by the interview. It will typically contain 11 discrete pieces of evidence. Evidence must be mapped against the KSBs. Evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested.

Evidence sources may include workplace documentation and records, for example:

- Workplace policies and procedures
- Witness statements
- Annotated photographs
- Video clips with a maximum total duration of ten minutes; the apprentice must be in view and identifiable.

This is not a definitive list; other evidence sources can be included. The portfolio of evidence 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. The evidence provided should be valid and attributable to the apprentice; the portfolio of evidence should contain a statement from the employer and apprentice confirming this.

The EPAO should not assess the portfolio of evidence directly as it underpins the interview. The independent assessor should review the portfolio of evidence to prepare questions for the interview. They are not required to provide feedback after this review.

Gateway evidence must be submitted to the EPAO, along with any organisation-specific policies and procedures requested by the EPAO.

Order of Assessment Methods

The assessment methods can be delivered in the following order. The interview underpinned by a portfolio of evidence must be passed before the Level 2 complex non-destructive technologies qualification is attempted to ensure both the apprenticeship and EPA are awarded together.

Stage 1 – Interview Underpinned by a Portfolio of Evidence

Overview

In the interview, an independent assessor asks the apprentice questions. This gives the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method. The apprentice can refer to and illustrate their answers with evidence from their portfolio of evidence.

Rationale

This assessment method is being used because:

- It assesses KSBs holistically and objectively
- It allows for the assessment of KSBs that do not occur on a predictable or regular basis
- It allows for the assessment of responses where there are a range of potential answers
- It can be conducted remotely, potentially reducing cost.

Delivery

The interview must be structured to give the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method to the highest available grade. An independent assessor must conduct and assess the interview.

The purpose of the independent assessor's questions will be to assess the apprentice's competence against the following themes:

- Planning work and project management
- Health, safety and sustainability
- Tools, equipment and materials
- Quality assurance and continuous improvement
- Team working, leadership and communication
- Digital and information technology
- Continuing professional development.

The EPAO must give an apprentice two weeks' notice of the interview and the independent assessor must have at least two weeks to review the supporting documentation. The apprentice must have access to their portfolio of evidence during the interview. The apprentice can refer to and illustrate their answers with evidence from their portfolio of evidence; however, the portfolio of evidence is not directly assessed.

The interview must last for 75 minutes. The independent assessor can increase the time of the interview by up to 10%. This time is to allow the apprentice to respond to a question if necessary. The independent assessor must ask at least ten questions and must use the questions from the EPAO's question bank. Follow-up questions are allowed where clarification is required.

The apprentice may choose to end the assessment method early. They must be confident they have demonstrated competence against the assessment requirements for the assessment method and the independent assessor or EPAO must ensure the apprentice is fully aware of all assessment requirements. The independent assessor or EPAO cannot suggest or choose to end the assessment methods early, unless in an emergency. The EPAO is responsible for ensuring that the apprentice understands the implications of ending an assessment early if they choose to do so; the independent assessor may suggest the assessment continues. The independent assessor must document the apprentice's request to end the assessment early.

The independent assessor must make the grading decision and they must keep accurate records of the assessment. They must record:

- The apprentice's answers to questions
- The KSBs demonstrated in the answers to questions
- The grade achieved.

Assessment Location

The interview must take place in a suitable venue selected by the EPAO, for example the EPAO's or employer's premises. The interview can be conducted by video conferencing.

The EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

The interview should take place in a quiet room, free from distractions and influence.

Question and Resource Development

The EPAO must develop a purpose-built assessment specification and question bank. It is recommended this is done in consultation with employers of this occupation. The EPAO must maintain the security and confidentiality of EPA materials when consulting with employers. The assessment specification and question bank must be reviewed at least once a year to ensure they remain fit for purpose.

The assessment specification must be relevant to the occupation and demonstrate how to assess the KSBs mapped to this assessment method. The EPAO must ensure that questions are refined and developed to a high standard. The questions must be unpredictable; a question bank of sufficient size will support this.

The EPAO must ensure that the apprentice has a different set of questions in the case of resits or retakes.

The EPAO must produce the following materials to support the interview underpinned by a portfolio of evidence:

- Independent assessor assessment materials, which include:
  - Training materials
  - Administration materials
  - Moderation and standardisation materials
  - Guidance materials
  - Grading guidance
  - Question bank.
- EPA guidance for the apprentice and the employer.

The EPAO must ensure that the EPA materials are subject to quality assurance procedures, including standardisation and moderation.

Stage 2 – Level 2 Complex Non-Destructive Technologies Qualification

This is an integrated assessment method. This integrated assessment method forms part of the apprenticeship's EPA, as well as the awarding of the qualification.

The KSBs aligned to this integrated assessment method will be assessed and graded by the awarding body and contribute to the overall outcome of the apprenticeship and the passing of one of the following Level 2 complex non-destructive technologies qualifications:

- Level 2 NDT eddy current testing (complex)
- Level 2 NDT infrared thermographic testing (complex)
- Level 2 NDT radiographic testing (complex)
- Level 2 NDT ultrasonic testing (complex)
- Level 2 NDT ultrasonic phased array testing (complex)
- Level 2 NDT ultrasonic time-of-flight diffraction testing (complex)
- Level 2 NDT alternating current field measurement (ACFM) (complex)
- Level 2 CM acoustic emission category 2 (complex)
- Level 2 CM vibration analysis category 2 (complex)
- Level 2 CM infrared thermography category 2 (complex)
- Level 2 CM ultrasound category 2 (complex).

Overview

In the Level 2 complex non-destructive technologies assessment, an independent assessor observes the apprentice completing a task or series of tasks set by the AB. The AB decides where it takes place. It gives the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method.

Rationale

This assessment method is being used because it:

- Allows for the assessment of knowledge and skills aligned to complex non-destructive testing and condition monitoring technologies and national and international standards qualifications
- This is a practical role, which can be demonstrated through completing theory and practical tasks
- It allows for consistency of opportunity for apprentices to demonstrate their competence against the mapped KSBs
- It is a valid assessment because it involves direct testing under controlled conditions
- It reduces the assessment burden on the apprentice.

Delivery

The delivery of the Level 2 complex non-destructive technologies assessment must align with the conditions set out by the AB for the integrated qualification.

The AB must give the apprentice notice of the Level 2 complex non-destructive technologies assessment.

The AB must manage invigilation of the apprentice during the assessment, to maintain security of the EPA, in line with their malpractice policy. This includes breaks and moving between locations.

The AB must explain to the apprentice the format and timescales of the Level 2 complex non-destructive technologies assessment before it starts.

Grading

Interview Underpinned By A Portfolio Of Evidence

Fail – Does not meet pass criteria

Theme KSBs	Pass apprentices must demonstrate all of the pass descriptors	Distinction apprentices must demonstrate all of the pass descriptors and all of the distinction descriptors
Planning work and project management (K2, K3, K9, K11, K14, K19, S3, S8, S9)	Describes how they use project management techniques throughout project phases to complete non-destructive technology methods in line with organisational procedures (K2, K3, K9, S3) Describes how they read and interpret engineering drawings to complete non-destructive technology methods and explains the underpinning mathematical techniques and scientific and engineering principles (K11, S8) Describes how to prepare and utilise inspection, test or monitoring procedures applicable to non-destructive technology methods and explains how they identify issues or concerns and report on progress of work in line with organisational procedures (K14, K19, S9)	Explains the impact on the organisation and themselves of using project planning and time management techniques to complete non-destructive technology methods in line with organisational procedures (K2, K9, S3) Explains the impact on the organisation and themselves of identifying issues or concerns and reporting on progress of work in line with organisational procedures (K19, S9)
Health, safety and sustainability (K6, K8, S6, S7)	Describes how they identify and document risks and hazards in the workplace and how they advise on and apply control measures to meet health & safety requirements (K6, S6) Explains how they apply sustainability principles and use resources efficiently, including segregating for reuse, recycling and disposal of waste, to comply with environmental and sustainability regulations and procedures (K8, S7)	Describes the impact that mitigating risks and hazards in the workplace and applying sustainability principles has on the organisation, colleagues and stakeholders (K6, K8, S6, S7)
Tools, equipment and materials (K15, K20, K21, S10)	Describes how they apply maintenance practices and techniques to tools, equipment and materials in line with organisational procedures (K15, S10) Describes material types tested using non-destructive technologies, outlining typical defects, defect mechanisms and growth rates for deterioration (K20) Explains the consequences and risks, including to life and the environment, of component, equipment and non-destructive technology material failure (K21)	Explains the impact on the organisation of completing maintenance practices and techniques to tools, equipment and materials in line with organisational procedures (K15, S10)
Quality assurance and continuous improvement (K10, K13, K23, S4, S15, B3)	Describes how they identify problems and apply analytical tools to identify causes and solutions in line with continuous improvement principles and techniques (K23, S15) Explains how they adapt to changing work demands and implement quality control procedures to deliver work tasks in line with organisational requirements (K10, S4, B3) Explains the impact on the non-destructive technology industry of technological development and innovation in the engineering sector, including Industry 4.0, IT networking, new materials and artificial intelligence (AI) (K13)	Describes the impact on the organisation of implementing quality control procedures and continuous improvement principles and techniques in line with organisational requirements (K10, K23, S4, S15)

Theme KSBs	Pass apprentices must demonstrate all of the pass descriptors	Distinction apprentices must demonstrate all of the pass descriptors and all of the distinction descriptors
Team working, leadership and communication (K1, K24, K25, K26, K27, S17, S18, S20, B4)	Explains the non-destructive technologies engineering function and role of the Non-Destructive Technologies Technician, outlining the limits of autonomy and explaining reporting channels within their organisation (K1) Describes how they apply team-working principles and equity, diversity and inclusion procedures to collaborate with colleagues across disciplines and external stakeholders to provide information, guidance or training (K24, K25, K26, S17, S18, B4) Explains how they communicate verbally with colleagues and stakeholders, matching their style to the audience and using non-destructive technology engineering terminology (K27, S20)	Outlines the benefits of applying team-working principles when collaborating with colleagues across disciplines (K24, S17)
Digital and information technology (K29, S21)	Describes how they use digital and information technology within their Non-Destructive Technologies Technician role in line with organisational procedures (K29, S21)	None
Continuing professional development (CPD) (K30, S22, B5)	Explains their commitment to CPD and how they carry out and record learning and development activities within their Non-Destructive Technologies Technician role (K30, S22, B5)	None

Level 2 Complex Non-Destructive Technologies Qualification

Fail – Does not meet pass criteria

Integrated qualifications KSBs	A pass for this assessment method will be achieved as detailed below
PCN examinations (K4, K5, K7, K12, K16, K17, K18, K22, K28, S1, S2, S5, S11, S12, S13, S14, S16, S19, B1, B2)	The apprentice will be assessed in line with the marking scheme produced by the AB. In order to pass, the apprentice must achieve the requirements of the pass criteria of the integrated qualification Awarding bodies must make clear in their marking criteria which grade boundary for the integrated assessment method represents a pass grade for the EPA

Overall EPA Grading

Performance in the EPA determines the overall grade of:

- Fail
- Pass
- Distinction.

An independent assessor must individually grade the interview underpinned by a portfolio of evidence and the AB must grade the integrated assessment for the Level 2 complex non-destructive technologies qualification.

The EPAO must combine the individual assessment method grades to determine the overall EPA grade.

If the apprentice fails one assessment method or more, they will be awarded an overall fail. To achieve an overall pass, the apprentice must achieve at least a pass in all the assessment methods. To achieve an overall EPA distinction, the apprentice must achieve a distinction in the interview underpinned by a portfolio of evidence and pass the Level 2 complex non-destructive technologies qualification.

ABs should make clear in their marking criteria which grade boundary for the integrated assessment method represents a pass grade for the EPA. This pass grade must reflect a demonstration of occupational competence in the KSBs.

Grades from individual assessment methods must be combined in the following way to determine the grade of the EPA overall.

Interview underpinned by a portfolio of evidence	Level 2 complex non-destructive technologies qualification	Overall grading
Fail	Any grade	Fail
Any grade	Fail	Fail
Pass	Pass	Pass
Distinction	Pass	Distinction

Resits and Retakes

If the apprentice fails one assessment method or more, they can take a resit or a retake at their employer's discretion. The apprentice's employer needs to agree that a resit or retake is appropriate. A resit does not need further learning, whereas a retake does. The apprentice should have a supportive action plan to prepare for a resit or a retake.

The employer and the EPAO should agree the timescale for a resit or retake. A resit is typically taken within two months of the EPA outcome notification. The timescale for a retake is dependent on how much retraining is required and is typically taken within four months of the EPA outcome notification.

Non-integrated assessment methods must be attempted before the integrated assessment method is attempted. The resit or retake opportunities for the integrated assessment method must fall within the typical EPA period timeframes. This is to ensure that apprentices are not disadvantaged by the assessment of qualifications being available within an assessment window occurring once a year.

Failed assessment methods must be resat or retaken within a six-month period from the EPA outcome notification, otherwise the entire EPA will need to be resat or retaken in full.

Resits and retakes are not offered to an apprentice wishing to move from a pass to a higher grade.

The apprentice will get a maximum EPA grade of pass if they need to resit or retake one or more assessment methods, unless the EPAO determines there are exceptional circumstances.

Roles and Responsibilities

Role	Responsibilities
Apprentice	As a minimum, the apprentice should: ■ Complete on-programme training to meet the KSBs as outlined in the occupational standard for a minimum of 12 months ■ Complete the required amount of off-the-job training specified by the apprenticeship funding rules and as arranged by the employer and training provider ■ Understand the purpose and importance of the EPA ■ Apply for any reasonable adjustments and special considerations ■ Prepare for and undertake the EPA, including meeting all gateway requirements ■ Ensure that all supporting evidence required at the gateway is submitted in line with this EPA plan.
Employer	As a minimum, the apprentice's employer must: ■ Select the training provider ■ Work with the training provider to select the EPAO ■ Ensure that the apprentice is enrolled on mandated qualifications in line with the occupational standard ■ Work with the training provider (where applicable) to support the apprentice in the workplace and to provide the opportunities for the apprentice to develop the KSBs ■ Arrange and support off-the-job training to be undertaken by the apprentice ■ Decide when the apprentice is working at or above the occupational standard and is ready for the EPA ■ Ensure the apprentice is prepared for the EPA ■ Ensure that all supporting evidence required at the gateway is submitted in line with this EPA plan ■ Confirm arrangements with the EPAO for the EPA (who, when, where) in a timely manner ■ Ensure that the EPA is scheduled with the EPAO for a date and time in line with EPA requirements ■ Ensure that the integrated assessment method is scheduled with the AB for a date and time in line with EPA requirements ■ Provide access to any employer-specific documentation as required, for example company policies ■ Ensure the apprentice is given sufficient time away from regular duties to prepare for and complete the EPA ■ Ensure that any required supervision during the EPA period, as stated within this EPA plan, is in place ■ Ensure the apprentice has access to the resources used to fulfil their role and carry out the EPA for workplace-based assessments ■ Remain independent from the delivery of the EPA ■ Pass the certificate to the apprentice upon receipt from the EPAO.
EPAO	As a minimum, the EPAO must: ■ Conform to the requirements of this EPA plan and deliver its requirements in a timely manner ■ Conform to the requirements of the APAR ■ Conform to the requirements of the External Quality Assurance Provider (EQAP) ■ Understand the apprenticeship, including the occupational standard, EPA plan and funding ■ Make all necessary contractual arrangements, including agreeing the price of the EPA

Role	Responsibilities

EPAO *(continued)*	■ Have third-party arrangements in place with the AB to:
	  ■ Work collaboratively to manage the delivery of the EPA
	  ■ Ensure the EPA is arranged to meet the scheduling requirements set out in this EPA plan
	  ■ Share the outcomes of the integrated assessment methods in a timely manner. The sharing of information is strictly related to the apprentice's details and the outcome of their performance of the qualification. Employer and training provider details should not be shared between these organisations.
	■ Develop and produce assessment materials, including specifications and marking materials (for example mark schemes, practice materials, training material) for the non-integrated assessment methods
	■ Maintain and apply a policy for the declaration and management of conflicts of interest and independence. This must ensure, as a minimum, there is no personal benefit or detriment for those delivering the EPA or from the result of an assessment. It must cover:
	  ■ Apprentices
	  ■ Employers
	  ■ Independent assessors
	  ■ Any other roles involved in delivery or grading of the EPA.
	■ Have quality assurance systems and procedures that ensure fair, reliable and consistent assessment and maintain records of internal quality assurance (IQA) activity for external quality assurance (EQA) purposes
	■ Appoint independent, competent and suitably qualified assessors in line with the requirements of this EPA plan
	■ Appoint administrators, invigilators and any other roles where required to facilitate the EPA
	■ Deliver induction, initial and ongoing training for all their independent assessors and any other roles involved in the delivery or grading of the non-integrated assessment methods of the EPA as specified within this EPA plan. This should include how to record the rationale and evidence for grading decisions, where required
	■ Conduct standardisation with all their independent assessors before allowing them to deliver an EPA, when the EPA is updated and at least once a year
	■ Develop and provide assessment recording documentation to ensure a clear and auditable process is in place for providing assessment decisions and feedback to all relevant stakeholders
	■ Maintain and apply a policy for reasonable adjustment and special considerations for the apprentices
	■ Use language in the development and delivery of the EPA that is appropriate to the level of the apprenticeship
	■ Provide information, advice and guidance documentation to enable apprentices, employers and training providers to prepare for the EPA
	■ Confirm the gateway requirements have been met before the EPA is started for an apprentice
	■ Host and facilitate the EPA or make suitable alternative arrangements
	■ Maintain the security of the EPA, including, but not limited to, verifying the identity of the apprentice, invigilation and security of materials
	■ Arrange for the non-integrated assessment methods of the EPA to take place in a timely manner, in consultation with the employer

Role	Responsibilities
EPAO *(continued)*	■ Deliver the non-integrated assessment methods in line with this EPA plan ■ Where the EPA plan permits assessment away from the workplace, ensure that the apprentice has access to the required resources and liaise with the employer to agree this if necessary ■ Confirm the overall grade awarded, including the outcomes of the integrated and non-integrated assessment methods in line with this EPA plan ■ Conduct moderation of all its independent assessors' decisions once EPAs have started ■ Monitor the performance of all its independent assessors and provide retraining where necessary ■ Maintain and apply a policy for conducting appeals ■ Arrange the certification of the apprenticeship.

Awarding body	As a minimum, the awarding body must:
	■ Conform to the requirements of this EPA plan and deliver its requirements in a timely manner
	■ Conform to the requirements of any regulators for the mandated qualification
	■ Understand the apprenticeship, including the occupational standard, EPA plan and funding
	■ Confirm that it agrees to the conditions of integration for the integrated assessment method, as outlined in the EPA plan
	■ Make all necessary contractual arrangements
	■ Have third-party arrangements in place with the EPAO to:
	  ■ Work collaboratively to manage the delivery of the EPA
	  ■ Ensure the EPA is arranged to meet the scheduling requirements set out in this EPA plan
	  ■ Share the outcomes of the integrated assessment method in a timely manner. The sharing of information is strictly related to the apprentice's details and the outcome of their performance of the qualification. Employer and training provider details should not be shared between these organisations.
	■ Develop and produce assessment materials, including specifications and marking materials (for example mark schemes, practice materials, training material) for the integrated assessment method
	■ Maintain and apply a policy for the declaration and management of conflicts of interest and independence relating to the EPA of an apprentice (including by way of moderation)
	■ Have quality assurance systems and procedures that ensure fair, reliable and consistent assessment and maintain records of IQA activity
	■ Source a suitably qualified and independent person who must administer all aspects of the integrated assessment method. This means that they must not:
	  ■ Be connected to the apprentice
	  ■ Have been involved in the management or training of the apprentice.
	  ■ Have a vested interest in the outcome.
	■ Where this is not possible, by exception, a person who has delivered the assessed content may administer the assessment. This is providing they are not the sole administrator
	■ Source a suitably qualified and independent person who must grade all aspects of the integrated assessment method. The person making the grading judgement must not be employed by:
	  ■ The same organisation as the apprentice
	  ■ The apprentice's training provider.

Role	Responsibilities

Awarding body *(continued)*	■ This means that the integrated assessment method/aspects must be marked by either:
	  ■ The awarding body
	  ■ An independent person appointed by the awarding body or an independent assessor sourced by or from the EPAO
	  ■ A combination of the above.
	■ In rare circumstances, training provider staff may mark the integrated assessment method. This will only be to mark tests where there is a right or wrong answer, for example multiple-choice tests. Strict arrangements must be in place for monitoring, moderation and quality assurance
	■ Develop and produce assessment materials, including specifications and marking materials (for example mark schemes, practice materials, training material) for the integrated assessment methods
	■ Deliver induction, initial and ongoing training for all their independent assessors and any other roles involved in the administration or grading of the integrated assessment method of the EPA as specified within this EPA plan. This should include how to record the rationale and evidence for grading decisions, where required
	■ Provide information, advice and guidance documentation to enable apprentices, employers and training providers to prepare for the integrated assessment method
	■ Arrange for the integrated assessment methods of the EPA to take place in a timely manner, in consultation with the employer
	■ Maintain the security of the integrated assessment method, including, but not limited to, verifying the identity of the apprentice, invigilation and security of materials
	■ Externally set and externally mark the integrated assessment method
	■ Maintain and apply a policy for reasonable adjustment and special considerations for apprentices
	■ Deliver the integrated assessment method in line with this EPA plan
	■ Conduct moderation of all its independent assessors' decisions for integrated assessment methods
	■ Monitor the performance of all its independent assessors and provide retraining, where necessary
	■ Have an auditable process in place for providing assessment decisions and feedback to all relevant stakeholders
	■ Maintain and apply a policy for conducting appeals
	■ Continue to follow the rules and regulations applicable to the qualification, for example those of the Office of Qualifications and Examinations Regulation (Ofqual) and industry regulators
	■ Give the Institute for Apprenticeships and Technical Education (IfATE) at least six months' notice of any changes to mandated qualifications.

Independent assessor	As a minimum, an independent assessor must: ■ Be independent, with no conflicts of interest with the apprentice, their employer or training provider; specifically, they must not receive a personal benefit or detriment from the result of the assessment ■ Have, maintain and be able to evidence up-to-date knowledge and expertise of the occupation ■ Have the competence to assess the EPA and meet the requirements of the IQA section of this EPA plan ■ Understand the apprenticeship's occupational standard and EPA plan ■ Attend induction and standardisation events before they conduct an EPA for the first time, when the EPA is updated and at least once a year ■ Use language in the delivery of the EPA that is appropriate to the level of the apprenticeship ■ Work with other personnel, including additional assessors where used, in the preparation and delivery of assessment methods

Role	Responsibilities
Independent assessor *(continued)*	■ Conduct the EPA to assess the apprentice against the KSBs and in line with the EPA plan ■ Make final grading decisions in line with this EPA plan ■ Record and report assessment outcome decisions ■ Comply with the IQA requirements of the EPAO ■ Comply with external quality assurance requirements.
Training provider	As a minimum, the training provider must: ■ Conform to the requirements of the APAR ■ Ensure procedures are in place to mitigate against any conflicts of interest ■ Work with the employer and support the apprentice during the off-the-job training to provide the opportunities to develop the KSBs as outlined in the occupational standard ■ Deliver training to the apprentice as outlined in their apprenticeship agreement ■ Monitor the apprentice's progress during any training provider-led on-programme learning ■ Ensure the apprentice is prepared for the EPA ■ Work with the employer to select the EPAO ■ Advise the employer, upon request, on the apprentice's readiness for the EPA ■ Ensure that all supporting evidence required at the gateway is submitted in line with this EPA plan ■ Not make any adaptations to aspects of the integrated assessment method ■ Remain independent from the delivery of the non-integrated assessment methods in the EPA ■ Remain independent from the integrated assessment method, except with the marking of tests where there is a right or wrong answer, for example multiple-choice tests ■ Remain independent from the administration of the integrated assessment method. This person must also be independent of the apprentice. Where this is not possible, by exception and agreed by the awarding body, a person who has delivered the assessed content may administer the assessment. This is providing they are not the sole administrator.

Reasonable Adjustments

Reasonable Adjustments

The EPAO and AB must have reasonable adjustment arrangements for the EPA.

This should include:

- How an apprentice qualifies for a reasonable adjustment
- What reasonable adjustments may be made.

Adjustments must maintain the validity, reliability and integrity of the EPA, as outlined in this EPA plan.

Special Considerations

The EPAO and AB must have special consideration arrangements for the EPA.

This should include:

- How an apprentice qualifies for a special consideration
- What special considerations will be given.

Special considerations must maintain the validity, reliability and integrity of the EPA as outlined in this EPA plan.

Internal Quality Assurance

Internal quality assurance refers to the strategies, policies and procedures that an EPAO and AB must have in place to ensure valid, consistent and reliable end-point assessment decisions.

EPAOs and ABs for this end-point assessment plan must adhere to the requirements within the Roles and Responsibilities table.

They must also appoint independent assessors who:

- Have recent relevant experience of the occupation or sector to at least occupational Level 3 gained in the last three years or significant experience of the occupation or sector.

Value for Money

Affordability of the EPA will be aided by using at least some of the following:

- Completing applicable assessment methods online, for example computer-based assessment
- Utilising digital remote platforms to conduct applicable assessment methods
- Assessing multiple apprentices simultaneously where the assessment method permits this
- Using the employer's premises.

Professional Recognition

This apprenticeship aligns with:

- Engineering Council registration for Engineering Technician (EngTech).

KSBs Mapping

	Knowledge	Assessment method
K1	The non-destructive technologies engineering function and role of the NDT Technician. Limits of autonomy and reporting channels	Interview underpinned by a portfolio of evidence
K2	Planning, organising, workflow and time management techniques	Interview underpinned by a portfolio of evidence
K3	Principles of identifying, organising and using resources and how they impact cost, quality, safety, security and the environment	Interview underpinned by a portfolio of evidence
K4	Principles of planning, preparing for and applying inspections, tests and monitoring on materials, products, plant or machinery using non-destructive technology	Level 2 complex non-destructive technologies qualification
K5	Contextual information: purpose and requirements prior to applying non-destructive technology on specific products, plant or machinery relevant to the specific industry	Level 2 complex non-destructive technologies qualification
K6	Awareness of health & safety regulations, relevance to the occupation and the Technician's responsibilities: Health and Safety at Work Act – responsibilities; Control of Substances Hazardous to Health (COSHH); Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR); manual handling; types of hazard; near-miss reporting; due diligence; personal protective equipment (PPE); situational awareness; slips, trips and falls; working in confined spaces; working at height; lone working; electrical safety and compliance; noise regulation; legionella; display screen equipment; ionising and non-ionising radiation (IRR19); and electromagnetic radiation	Interview underpinned by a portfolio of evidence
K7	Risk assessments and safe systems of working	Level 2 complex non-destructive technologies qualification
K8	Environment and sustainability regulations and guidance relevance to the occupation and the Technician's responsibilities: Environmental Protection Act; types of pollution and control measures; noise, smells, spills and waste; sustainability; efficient use of resources; environmental permits; waste management; Waste Electrical and Electronic Equipment (WEEE) Directive; recyclable materials and waste disposal procedures; and net-zero commitment	Interview underpinned by a portfolio of evidence
K9	Project management techniques and phases: project planning and execution to completion, costs, budgets, resources, quality, safety, security and the environment	Interview underpinned by a portfolio of evidence
K10	Quality assurance: awareness of quality management standards policy, principles and practices, relevance to the occupation and the Technician's responsibilities	Interview underpinned by a portfolio of evidence
K11	Mathematical techniques and scientific and engineering principles: calculations using formulae, ratios, SI units and trigonometry	Interview underpinned by a portfolio of evidence
K12	International and national standards for engineering representations, drawings, graphical information and datasets	Level 2 complex non-destructive technologies qualification
K13	Technological development and innovation in the engineering sector; Industry 4.0, IT networking, new materials and artificial intelligence (AI)	Interview underpinned by a portfolio of evidence

Knowledge		Assessment method
K14	Inspection, test or monitoring procedures applicable to the non-destructive technology: what they are and how to prepare and utilise them	Interview underpinned by a portfolio of evidence
K15	Techniques and processes for maintenance and storage of tools, materials and equipment	Interview underpinned by a portfolio of evidence
K16	Techniques and processes for selecting, configuring, operating and using tools and equipment	Level 2 complex non-destructive technologies qualification
K17	National and international standards applicable to the test or monitoring method: ISO 17359, EN 4179, BS EN ISO 16810 or BS EN 15495:2007	Level 2 complex non-destructive technologies qualification
K18	Non-destructive technologies: methods and techniques	Level 2 complex non-destructive technologies qualification
K19	Principles of collecting and analysing information and reporting on the application of NDT methods and techniques on equipment, parts, assemblies and subassemblies	Interview underpinned by a portfolio of evidence
K20	Materials science: material types, manufacturing processes, in-service conditions, defect types, defect mechanisms and growth rates	Interview underpinned by a portfolio of evidence
K21	Component, equipment and material failure: consequences, risks to life and the environment	Interview underpinned by a portfolio of evidence
K22	Types, uses and limitations of non-destructive technology tests, for analysis and measurements	Level 2 complex non-destructive technologies qualification
K23	Continuous improvement principles and techniques	Interview underpinned by a portfolio of evidence
K24	Team-working principles	Interview underpinned by a portfolio of evidence
K25	Supervisory techniques and principles: leading and motivating, performance evaluation, mentoring, delegating and solving routine daily problems	Interview underpinned by a portfolio of evidence
K26	Equality Act: equity, diversity and inclusion in the workplace; unconscious bias	Interview underpinned by a portfolio of evidence
K27	Verbal communication techniques: matching style to audience; barriers in communication and how to overcome them; and NDT engineering terminology	Interview underpinned by a portfolio of evidence
K28	Written communication techniques: report writing, data collection and presentation and image acquisition	Level 2 complex non-destructive technologies qualification
K29	Digital and information technology: management information systems (MISs), spreadsheets, presentation, word processing, email, virtual communication and learning platforms; awareness of General Data Protection Regulation (GDPR); and cyber security	Interview underpinned by a portfolio of evidence
K30	Workplace training and development activities: CPD	Interview underpinned by a portfolio of evidence

Skill		Assessment method
S1	Identify, organise and use resources to complete inspections, tests or monitoring on materials, products, plant or machinery for the non-destructive technology	Level 2 complex non-destructive technologies qualification
S2	Plan, prepare for and apply inspections, tests or monitoring on materials, products, plants or machinery using non-destructive technology	Level 2 complex non-destructive technologies qualification
S3	Use project management techniques throughout project phases, for example project justification, planning, analysis, execution and conclusions	Interview underpinned by a portfolio of evidence
S4	Implement quality control procedures	Interview underpinned by a portfolio of evidence
S5	Comply with health & safety regulations and procedures; apply safe systems of work	Level 2 complex non-destructive technologies qualification
S6	Identify and document risks and hazards in the workplace; advise on and apply control measures	Interview underpinned by a portfolio of evidence
S7	Comply with environmental and sustainability regulations and procedures; segregate resources for reuse, recycling and disposal of waste; use resources efficiently; and apply sustainability principles	Interview underpinned by a portfolio of evidence
S8	Read and interpret engineering drawings, for example weld or component configuration	Interview underpinned by a portfolio of evidence
S9	Identify and report on progress of work and issues or concerns of the non-destructive technology method	Interview underpinned by a portfolio of evidence
S10	Apply maintenance practices and techniques for tools, materials and equipment, for example clean, lubricate and replace parts	Interview underpinned by a portfolio of evidence
S11	Select, configure, use and operate tools and equipment	Level 2 complex non-destructive technologies qualification
S12	Apply and review inspection and monitoring procedures	Level 2 complex non-destructive technologies qualification
S13	Perform non-destructive technology methods in line with national and international standards applicable to the test or monitoring method, for example the ISO 17359, EN 4179 and BS EN ISO 16810 standards	Level 2 complex non-destructive technologies qualification
S14	Apply non-destructive technology methods and techniques, for example vibration analysis, ultrasonics, radiography, thermography and eddy current	Level 2 complex non-destructive technologies qualification
S15	Identify problems and apply analytical tools to identify causes and solutions, for example root cause analysis. Review the effectiveness of methods deployed, actions and results	Interview underpinned by a portfolio of evidence
S16	Collect and interpret technical or analytical information or datasets from performed non-destructive technology tests	Level 2 complex non-destructive technologies qualification
S17	Apply team-working principles, which includes providing information, guidance or training to colleagues or stakeholders	Interview underpinned by a portfolio of evidence
S18	Apply equity, diversity and inclusion procedures	Interview underpinned by a portfolio of evidence
S19	Write technical reports	Level 2 complex non-destructive technologies qualification
S20	Communicate verbally with colleagues and stakeholders	Interview underpinned by a portfolio of evidence
S21	Use information technology, for example for document creation, communication and information management. Comply with GDPR and cyber security	Interview underpinned by a portfolio of evidence
S22	Carry out and record learning and development activities	Interview underpinned by a portfolio of evidence

Behaviour		Assessment method
B1	Prioritise and promote health & safety	Level 2 complex non-destructive technologies qualification
B2	Take responsibility for work	Level 2 complex non-destructive technologies qualification
B3	Adapt to changing work demands	Interview underpinned by a portfolio of evidence
B4	Collaborate within teams, across disciplines and external stakeholders, supporting social inclusion in the workplace	Interview underpinned by a portfolio of evidence
B5	Be committed to continuing professional development	Interview underpinned by a portfolio of evidence

Mapping of KSBs to Grade Themes

Interview Underpinned by a Portfolio of Evidence

KSBs grouped by theme	Knowledge	Skills	Behaviour
Planning work and project management (K2, K3, K9, K11, K14, K19, S3, S8, S9)	Planning, organising, workflow and time management techniques (K2) Principles of identifying, organising and using resources and how they impact cost, quality, safety, security and the environment (K3) Project management techniques and phases: project planning and execution to completion, costs, budgets, resources, quality, safety, security and the environment (K9) Mathematical techniques and scientific and engineering principles: calculations using formulae, ratios, SI units and trigonometry (K11) Inspection, test or monitoring procedures applicable to the non-destructive technology: what they are and how to prepare and utilise them (K14) Principles of collecting and analysing information and reporting on the application of NDT methods and techniques on equipment, parts, assemblies and subassemblies (K19)	Use project management techniques throughout project phases, for example project justification, planning, analysis, execution and conclusions (S3) Read and interpret engineering drawings, for example weld or component configuration (S8) Identify and report on progress of work and issues or concerns of the non-destructive technology method (S9)	None
Health, safety and sustainability (K6, K8, S6, S7)	Awareness of health & safety regulations, relevance to the occupation and the technician's responsibilities: Health and Safety at Work Act – responsibilities; COSHH; RIDDOR; manual handling; types of hazards; near-miss reporting; due diligence; PPE; situational awareness; slips, trips and falls; working in confined spaces; working at height; lone working; electrical safety and compliance; noise regulation; legionella; display screen equipment; ionising and non-ionising radiation (IRR19); and electromagnetic radiation (K6)	Identify and document risks and hazards in the workplace. Advise on and apply control measures (S6) Comply with environmental and sustainability regulations and procedures. Segregate resources for reuse, recycling and disposal of waste. Use resources efficiently. Apply sustainability principles (S7)	None

KSBs grouped by theme	Knowledge	Skills	Behaviour
Health, safety and sustainability (K6, K8, S6, S7) *(continued)*	Environment and sustainability regulations and guidance relevance to the occupation and the Technician's responsibilities: Environmental Protection Act; types of pollution and control measures; noise, smells, spills and waste; sustainability; efficient use of resources; environmental permits; waste management; WEEE; recyclable materials and waste disposal procedures; and net-zero commitment (K8)		
Tools, equipment and materials (K15, K20, K21, S10)	Techniques and processes for maintenance and storage of tools, materials and equipment (K15) Materials science: material types, manufacturing processes, in-service conditions, defect types, defect mechanisms and growth rates (K20) Component, equipment and material failure: consequences and risks to life and the environment (K21)	Apply maintenance practices and techniques for tools, materials and equipment, for example clean, lubricate and replace parts (S10)	None
Quality assurance and continuous improvement (K10, K13, K23, S4, S15, B3)	Quality assurance: awareness of quality management standards policy, principles and practices and relevance to the occupation and the technician's responsibilities (K10) Technological development and innovation in the engineering sector; Industry 4.0, IT networking, new materials and AI (K13) Continuous improvement principles and techniques (K23)	Implement quality control procedures (S4) Identify problems and apply analytical tools to identify causes and solutions, for example root cause analysis. Review the effectiveness of methods deployed, actions and results (S15)	Adapt to changing work demands (B3)
Team working, leadership and communication (K1, K24, K25, K26, K27, S17, S18, S20, B4)	The non-destructive technologies engineering function and role of the Technician. Limits of autonomy and reporting channels (K1) Team-working principles (K24) Supervisory techniques and principles: leading and motivating, performance evaluation, mentoring, delegating and solving routine daily problems (K25) Equality Act: equity, diversity and inclusion in the workplace; unconscious bias (K26) Verbal communication techniques: matching style to audience; barriers in communication and how to overcome them; and NDT engineering terminology (K27)	Apply team-working principles, including provide information, guidance or training to colleagues or stakeholders (S17) Apply equity, diversity and inclusion procedures (S18) Communicate verbally with colleagues and stakeholders (S20)	Collaborate within teams, across disciplines and external stakeholders, supporting social inclusion in the workplace (B4)
Digital and information technology (K29, S21)	Digital and information technology: management information systems (MISs), spreadsheets, presentation, word processing, email, virtual communication and learning platforms; awareness of GDPR; and cyber security (K29)	Use information technology, for example for document creation, communication and information management; comply with GDPR and cyber security (S21)	None
CPD (K30, S22, B5)	Workplace training and development activities: CPD (K30)	Carry out and record learning and development activities (S22)	Be committed to CPD (B5)

Level 2 Complex Non-Destructive Technologies Qualification

KSBs grouped by theme	Knowledge	Skills	Behaviour
PCN examinations (K4, K5, K7, K12, K16, K17, K18, K22, K28, S1, S2, S5, S11, S12, S13, S14, S16, S19, B1, B2)	Principles of planning, preparing for and applying inspections, tests and monitoring on materials, products, plant or machinery using non-destructive technology (K4) Contextual information: purpose and requirements prior to applying non-destructive technology on specific products, plant or machinery relevant to the specific industry (K5) Risk assessments and safe systems of working (K7) International and national standards for engineering representations, drawings, graphical information and datasets (K12) Techniques and processes for selecting, configuring, operating and using tools and equipment (K16) National and international standards applicable to the test or monitoring method: ISO 17359, EN 4179, BS EN ISO 16810 or BS EN 15495:2007 (K17) Non-destructive technologies: methods and techniques (K18) Types, uses and limitations of non-destructive technology tests for analysis and measurements (K22) Written communication techniques: report writing, data collection and presentation and image acquisition (K28)	Identify, organise and use resources to complete inspections, tests or monitoring on materials, products, plant or machinery for the non-destructive technology (S1) Plan, prepare for and apply inspections, tests or monitoring on materials, products, plants or machinery using non-destructive technology (S2) Comply with health & safety regulations and procedures. Apply safe systems of work (S5) Select, configure, use and operate tools and equipment (S11) Apply and review inspection and monitoring procedures (S12) Perform non-destructive technology methods in line with national and international standards applicable to the test or monitoring method, for example the ISO 17359, EN 4179 and BS EN ISO 16810 standards (S13) Apply NDT methods and techniques, for example vibration analysis, ultrasonics, radiography, thermography and eddy current (S14) Collect and interpret technical or analytical information or datasets from performed non-destructive technology tests (S16) Write technical reports (S19)	Prioritise and promote health & safety (B1) Take responsibility for work (B2)

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